ORDER NO. SD83072600C2

# Service Manual

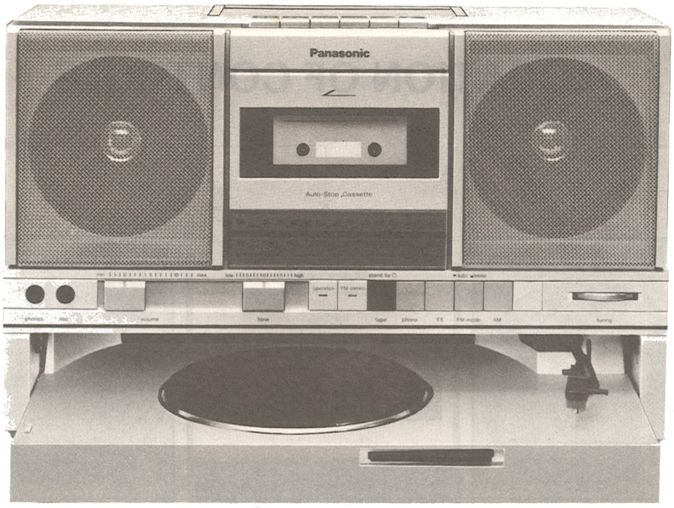
## MW/FM STEREO RADIO WITH CASSETTE TAPE DECK AND RECORD PLAYER

Portable Stereo

# SG-J500 (K), (W)

[EX]

[EX]: Denmark, Finland



## Specifications

### AMPLIFIER SECTION

| | | |
|---|---|---|
| Power Output | AC: | MPO 4W × 2 (THD 10%, 6Ω)<br>RMS 1.9W × 2 (THD 10%, 6Ω) |
| | DC: | RMS 3W × 2 (THD 10%, 6Ω) |

### FM TUNER SECTION

| | |
|---|---|
| Frequency Range | 87.5 MHz ~ 108 MHz |
| Intermediate Frequency (IF) | 10.7 MHz |
| Sensitivity | 2.8 µV (at 1 kHz, 40 kHz) (DIN) at 75Ω |
| Stereo Separation | 34 dB (at 1 kHz, 60 dB, 40 kHz) |

### AM TUNER SECTION

| | |
|---|---|
| Frequency Range | 525 kHz ~ 1605 kHz<br>(571 m ~ 187 m) |
| Intermediate Frequency (IF) | 450 kHz |
| Sensitivity | 220 µV/m (1 MHz) |

### TAPE DECK SECTION

| | |
|---|---|
| Deck System | Auto stop |
| Track System | 4-Track, 2-Channel |
| Head Type | Hard Permalloy (Rec/Play)<br>Double Gap Ferrite (Erase) |
| Recording System | AC Bias (50 kHz) |
| Erasing System | AC Erase (50 kHz) |
| Tape Speed | 4.8 cm/sec. |
| Frequency Response | 50 Hz ~ 12 kHz |
| Signal/Noise Ratio | 50 dB (DIN) |
| Wow & Flutter | 0.2% (WRMS) |

### PHONO SECTION

| | |
|---|---|
| Turntable System | Belt drive |
| Turntable Platter | 16 cm |
| Turntable Speed | 33-1/3 rpm and 45 rpm |
| Phono-Motor | Electro-Governor DC Motor |
| Cartridge | Ceramic cartridge (EPC-13STH) |
| Stylus | Sapphire tip (EPS-41ST) |
| Stylus Pressure Range | 5.9g |

### SPEAKER SYSTEM

| | |
|---|---|
| Speaker | 12 cm Dynamic Speaker |
| Input Impedance | 6Ω |

### GENERAL

| | |
|---|---|
| Power Consumption | 15W |
| Power Supply | AC 110V/120V/220V/240V, 50/60 Hz<br>Battery: 12V (8 × UM-1, "D" size battery)<br>Car battery: optional car adaptor |
| Dimensions (W × H × D) | 395 mm × 273 mm × 209 mm |
| Weight | 5 kg (without batteries)<br>5.8 kg (with batteries) |

* Specifications are subject to change without notice for further improvement.

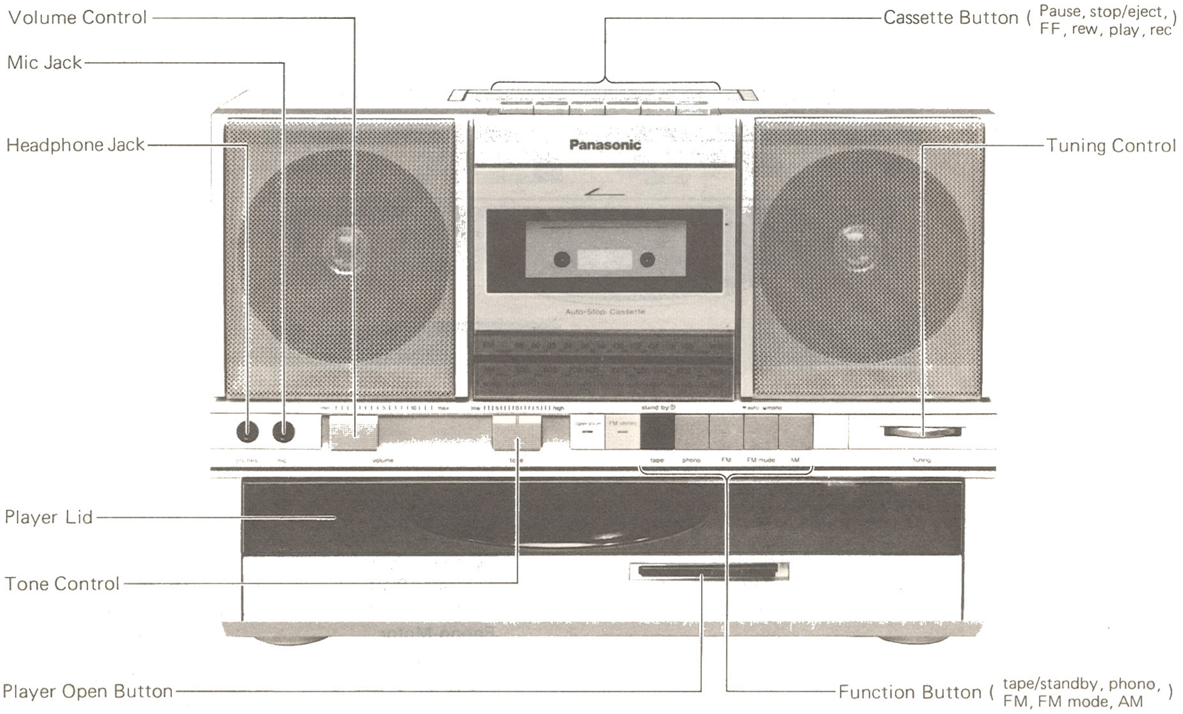
**Panasonic**

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka, Japan

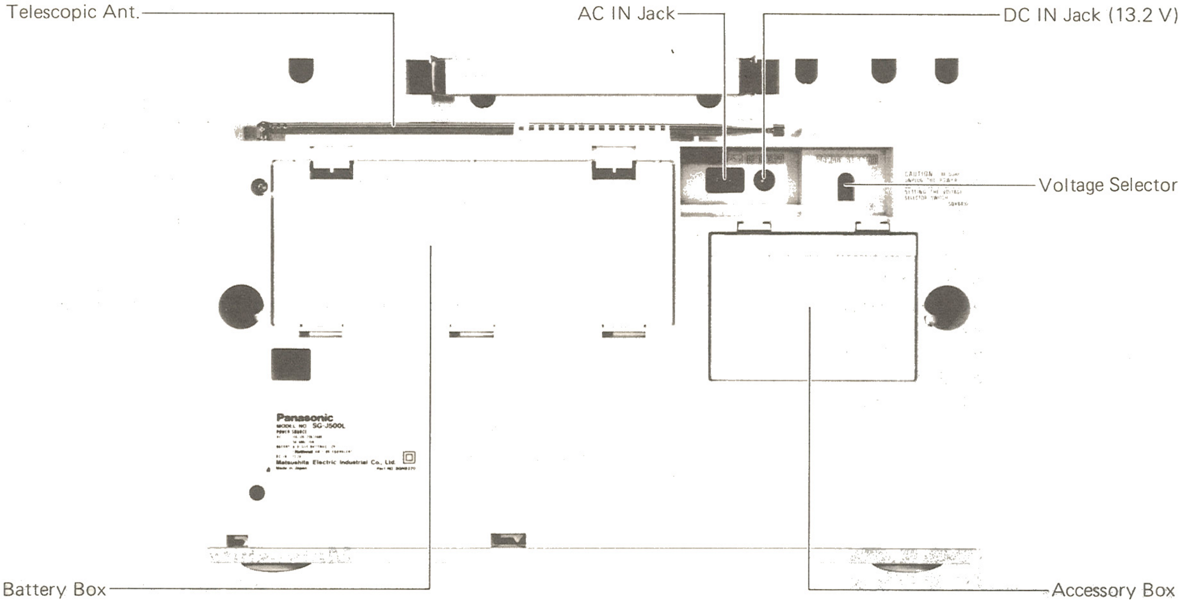
# CONTENTS

| | Page |
|---|---|
| Specifications | 1 |
| Location of Controls | 2 |
| Disassembly Instructions | 3 |
| Measurements and Adjustment | 4 ~ 6 |
| Tape Deck Service Aid | 6 |
| Wiring Connection | 7 |
| Replacement Parts List | 8, 11, 12 |
| Schematic Diagram | 9 |
| Circuit Board | 10 |
| IC Block Diagram | 13 |
| Parts Location of Cabinet and Chassis | 15 |
| Replacement Parts List of Cabinet and Chassis | 16 |
| Parts Location of Record Player | 17 |
| Replacement Parts List of Record Player | 17 |
| Parts Location of Cassette Tape Deck | 18 |
| Replacement Parts List of Cassette Tape Deck | 19 |
| Block Diagram | 20 |

# LOCATION OF CONTROLS



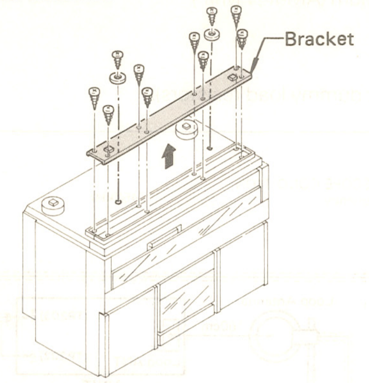
Volume Control
Mic Jack
Headphone Jack
Cassette Button ( Pause, stop/eject, FF, rew, play, rec )
Tuning Control
Panasonic
Auto-Stop Cassette
Player Lid
Tone Control
Player Open Button
Function Button ( tape/standby, phono, FM, FM mode, AM )



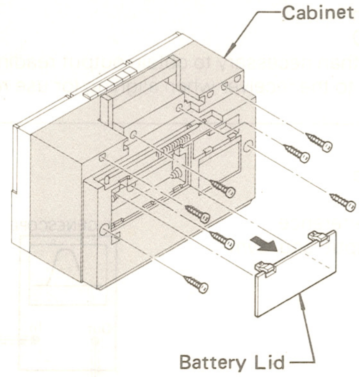
Telescopic Ant.
AC IN Jack
DC IN Jack (13.2 V)
Voltage Selector
Panasonic
Battery Box
Accessory Box

# DISASSEMBLY INSTRUCTIONS

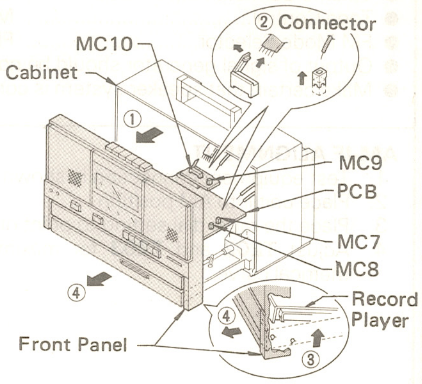
### ❶ Remove the Power Cord, Battery and Bracket



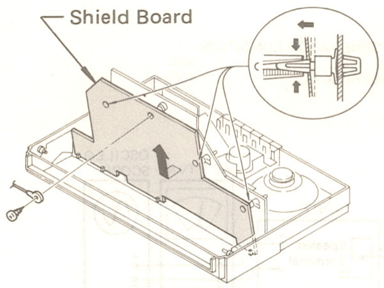
### ❷ Remove the Cabinet


Cabinet
Battery Lid

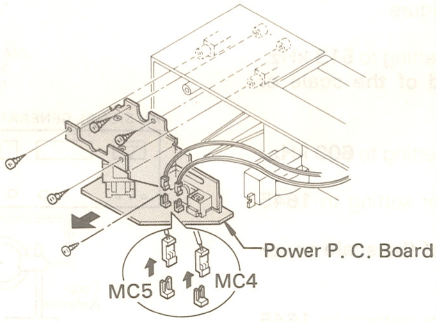
### ❸ Remove the Front Panel


② Connector
MC10
Cabinet
①
MC9
PCB
MC7
MC8
④
Record
Player
④
③
Front Panel
③

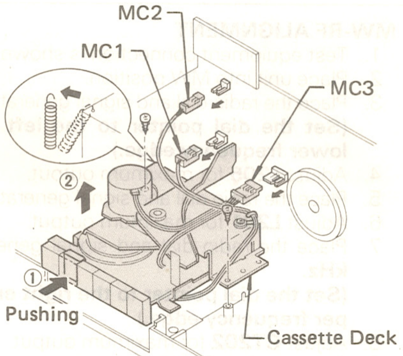
### ❹ Remove the Shield Board


Shield Board

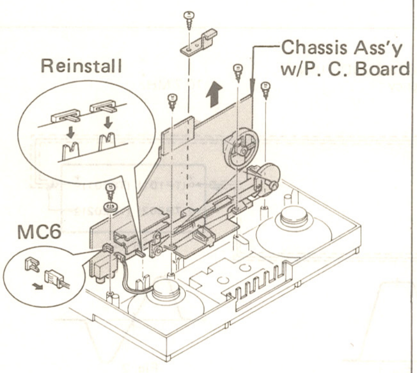
### ❺ Remove the Power P. C. Board


Power P. C. Board
MC5
MC4

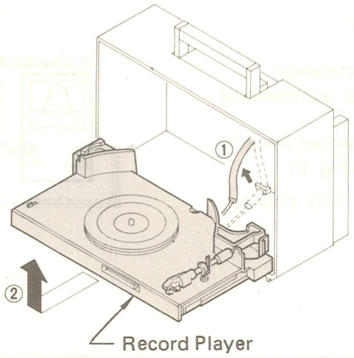
### ❻ Remove the Cassette Deck


MC2
MC1
MC3
②
①
Pushing
Cassette Deck

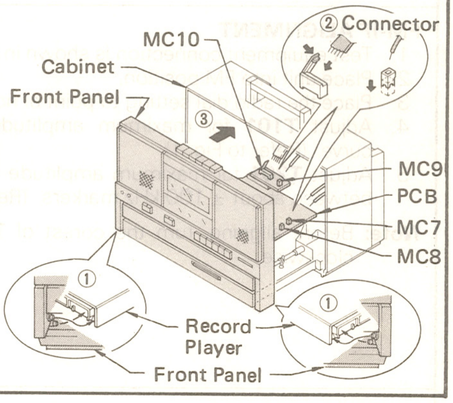
### ❼ Remove the Chassis Ass'y


Reinstall
Chassis Ass'y
w/P. C. Board
MC6

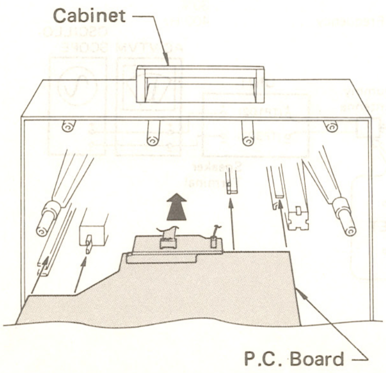
### ❽ Remove the Record Player


①
②
Record Player

### ❾ Reinstall the Front Panel-1


② Connector
MC10
Cabinet
Front Panel
③
MC9
PCB
MC7
MC8
①
①
Record
Player
Front Panel

### ❿ Reinstall the Front Panel-2


Cabinet
P.C. Board

- **To Replace the Parts on P. C. Board**
  - **Main P. C. Board** . . . . . . . . . . . . . . . .Refer to ❶ ~ ❹
  - **Power P. C. Board** . . . . . . . . . . . . . . .Refer to ❶ ~ ❸, ❺
- **To Remove the Cassette Deck** . . . . . . . . . . .Refer to ❶ ~ ❸, ❻
- **To Remove the Chassis Ass'y** . . . . . . . . . .Refer to ❶ ~ ❸, ❹, ❻, ❼
- **To Remove the Player** . . . . . . . . . . . . . . . . .Refer to ❶ ~ ❸, ❽
- **To Reinstall the Front Panel** . . . . . . . . . . .Refer to ❾, ❿, ❷, ❶

# MEASUREMENTS AND ADJUSTMENT

## ■ Radio

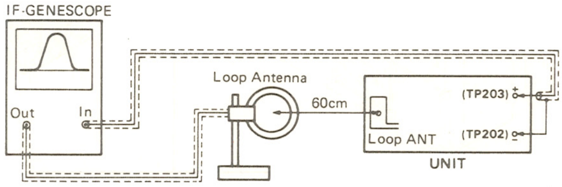
**Control Positions**

- ● Volume Control................................ Audible level of speaker sound (AM-RF, FM-RF); Minimum (AM-IF, FM-IF).
- ● Tone Control.................................... Maximum
- ● FM Mode Selector............................ FM AUTO
- ● Output of signal generator should be no higher than necessary to obtain output reading.
- ● Make certain that speaker system is connected to the receiver when aligning (or use relivant dummy load resistors).

### AM-IF ALIGNMENT

1. Test equipment connection is shown in figure.
2. Place unit into AM position.
3. Place the radio dial setting to point of noninterference.
4. Adjust **T202** and **T203** for maximum output and symmetrical curve.

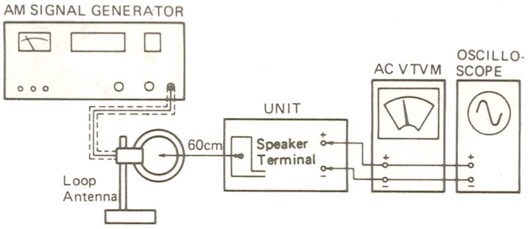
GENESCOPE CONDITION
Frequency .................... 450kHz


IF-GENESCOPE
Out
In
Loop Antenna
60cm
Loop ANT
(TP203)
(TP202)
UNIT

### MW-RF ALIGNMENT

1. Test equipment connection is shown in figure.
2. Place unit into MW position.
3. Place the radio dial and signal generator setting to **513 kHz.** **(Set the dial pointer to the left end of the scale or lower frequency edge.)**
4. Adjust **L205** for maximum output.
5. Place the radio dial and signal generator setting to **600 kHz.**
6. Adjust **L201** for maximum output.
7. Place the radio dial and signal generator setting to **1645 kHz.** **(Set the dial pointer to the right end of the scale or upper frequency edge.)**
8. Adjust **CT202** for maximum output.
9. Place the radio dial and signal generator setting to **1645 kHz.**
10. Adjust **CT201** for maximum output.
11. Repeat steps 3. ~ 10.

AM SIGNAL GENERATOR CONDITION
Modulation .................... 30%
Modulation Frequency .......... 400 Hz

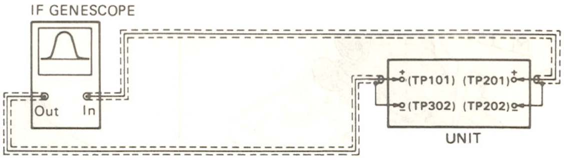

AM SIGNAL GENERATOR
UNIT
AC VTVM
OSCILLO-SCOPE
60cm
Speaker Terminal
Loop Antenna

### FM-IF ALIGNMENT

1. Test equipment connection is shown in figure.
2. Place unit into FM position.
3. Place the radio dial setting to point of noninterference.
4. Adjust **T101** for maximum amplitude and symmetrical curve. (Refer to Fig. 1)
5. Adjust **T201** for maximum amplitude and proper linearity between about ± 100 kHz markers. (Refer to Fig. 2)

**Note:** Before aligning, turn the corest of **T201** fully counter-clockwise.

GENESCOPE CONDITION
Frequency .................... 10.7 MHz


IF GENESCOPE
Out
In
(TP101) (TP201)
(TP302) (TP202)
UNIT

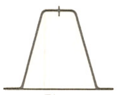


Fig. 1

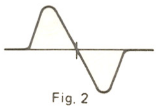


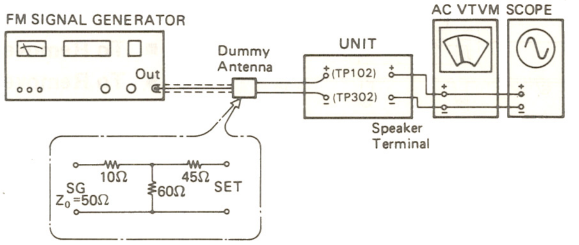
Fig. 2

### FM-RF ALIGNMENT

1. Test equipment connection is shown in figure.
2. Place unit into FM position.
3. Place the radio dial and signal generator setting to **87.3 MHz.** **(Set the dial pointer to the left end of the scale or lower frequency edge.)**
4. Adjust **L101** and **L102** for maximum output.
5. Place the radio dial and signal generator setting to **108.6 MHz.** **(Set the dial pointer to the right end of the scale or upper frequency edge.)**
6. Adjust **CT101** and **CT102** for maximum output.
7. Repeat steps 3. ~ 6.

**Note:** As three output reading will be present, adjustments must be made at center frequency.

FM SIGNAL GENERATOR CONDITION
Modulation .................... 30%
Modulation Frequency .......... 400 Hz


FM SIGNAL GENERATOR
Out
Dummy Antenna
UNIT
(TP102)
(TP302)
Speaker Terminal
AC VTVM
OSCILLO-SCOPE
10Ω
45Ω
60Ω
SG
$Z_0$=50Ω
SET

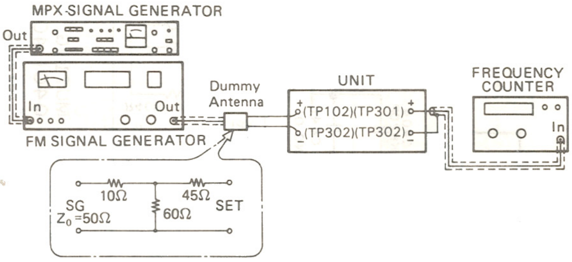
# MEASUREMENTS AND ADJUSTMENT

## ■ Radio

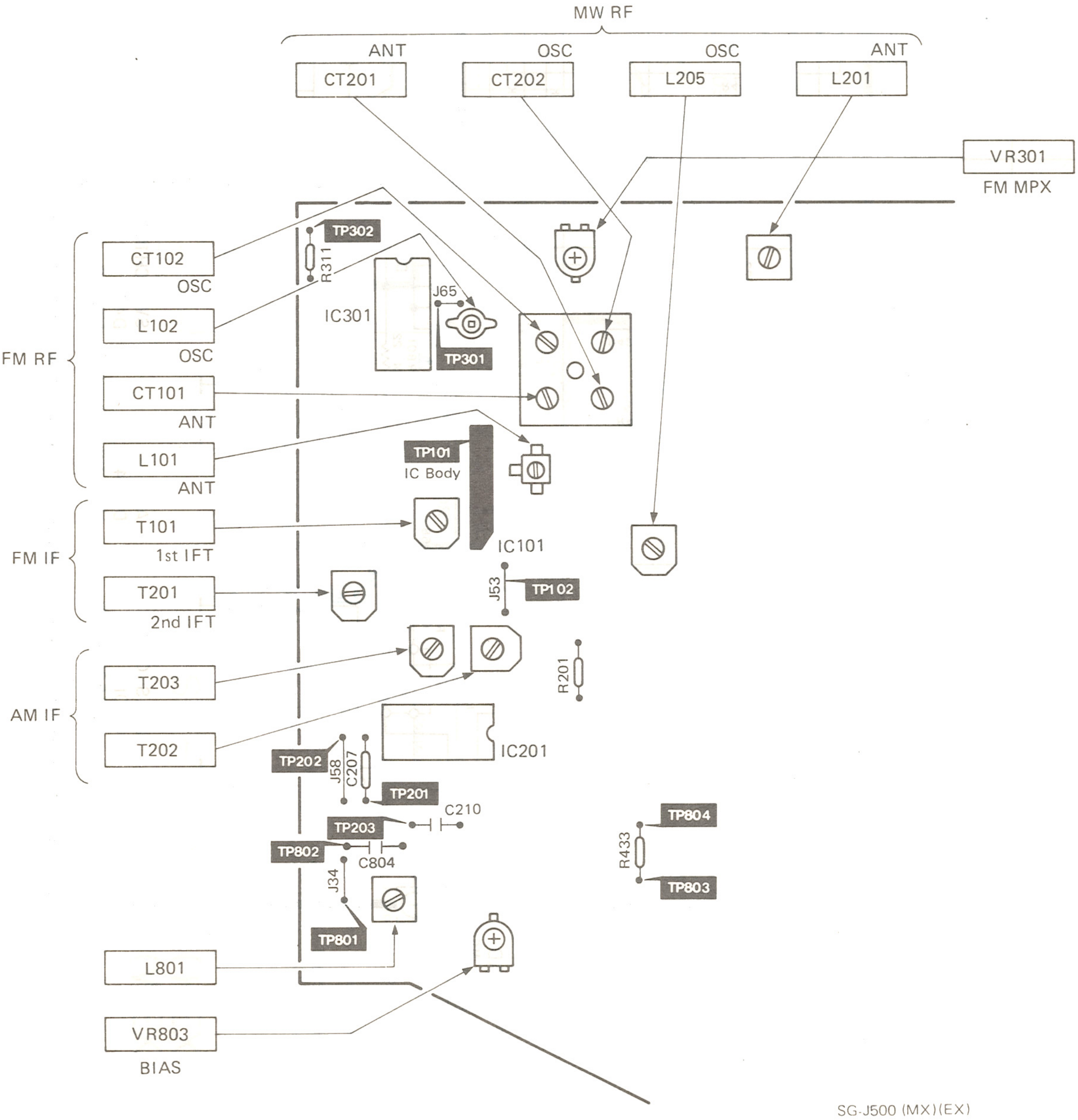
### FM STEREO ALIGNMENT (FREE RUN)

1. Test equipment connection is shown in figure.
2. Place unit into FM AUTO position.
3. Place the radio dial and signal generator setting to **98 MHz.**
4. Adjust **VR301** for **19 kHz** ±**50 Hz** on frequency counter reading.
5. Tune a stereo broadcast and confirm the frequency stays at **19 kHz.**

STEREO SIGNAL GENERATOR CONDITION
Modulation . . . . . . . . . . . . . . . . . . . 0%
Pilot . . . . . . . . . . . . . . . . . . . . . . . . 9%
FM SIGNAL GENERATOR CONDITION
Output Level . . . . . . . . . . . . . . . . . 60 dB


MPX SIGNAL GENERATOR
Out
In
Out
FM SIGNAL GENERATOR
Dummy Antenna
UNIT
+
(TP102)(TP301)
+
−
(TP302)(TP302)
−
FREQUENCY COUNTER
In
10Ω
45Ω
SG
$Z_0$=50Ω
60Ω
SET

# ADJUSTMENT POINTS

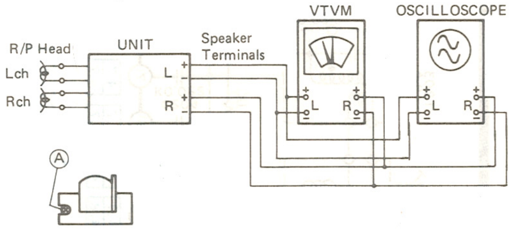

MW RF
ANT
CT201
OSC
CT202
OSC
L205
ANT
L201
VR301
FM MPX
TP302
R311
CT102
OSC
L102
OSC
CT101
ANT
L101
ANT
FM RF
IC301
J65
TP301
TP101
IC Body
IC101
T101
1st IFT
T201
2nd IFT
FM IF
J53
TP102
T203
T202
AM IF
R201
IC201
TP202
J58
C207
TP201
C210
TP203
TP802
C804
J34
TP801
TP804
R433
TP803
L801
VR803
BIAS

# MEASUREMENTS AND ADJUSTMENT

## ■ Tape

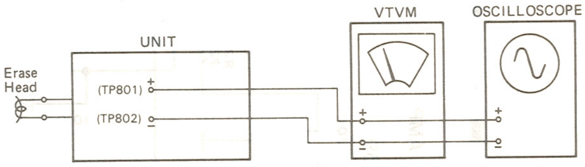
### HEAD AZIMUTH ALIGNMENT

1. Test equipment connection is shown in figure.
2. Playback test tape QZZCAC. (10 kHz, –20 dB)
3. Adjust screw Ⓐ for maximum indication for equal output on both channels.
4. After alignment, lock the head adjust screw Ⓐ with lacquer.

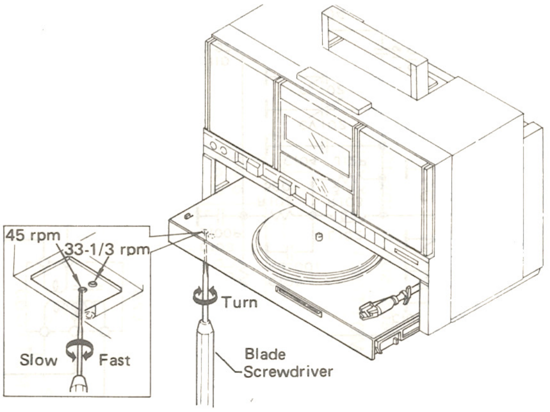

VTVM
OSCILLOSCOPE
R/P Head
UNIT
Speaker Terminals
Lch
Rch
L
R
+
–
L
R
L
R
Ⓐ

### ERASE BIAS ALIGNMENT

1. Test equipment connection is shown in figure.
2. Place unit into TAPE position.
3. Place cassette deck into recording mode.
4. Adjust **VR803** for **10.5V ±0.5V** on VTVM.


VTVM
OSCILLOSCOPE
UNIT
Erase Head
(TP801)
(TP802)
+
–

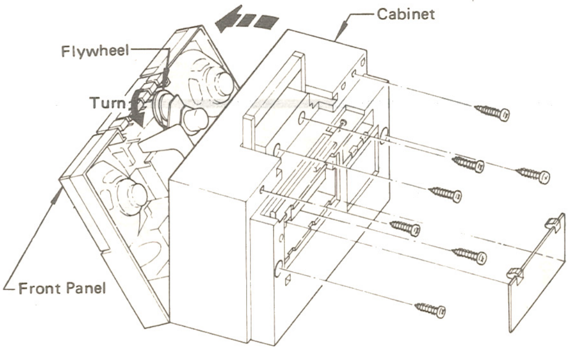
# PHONO MOTOR SPEED ADJUSTMENT


45 rpm
33-1/3 rpm
Slow
Fast
Turn
Blade Screwdriver

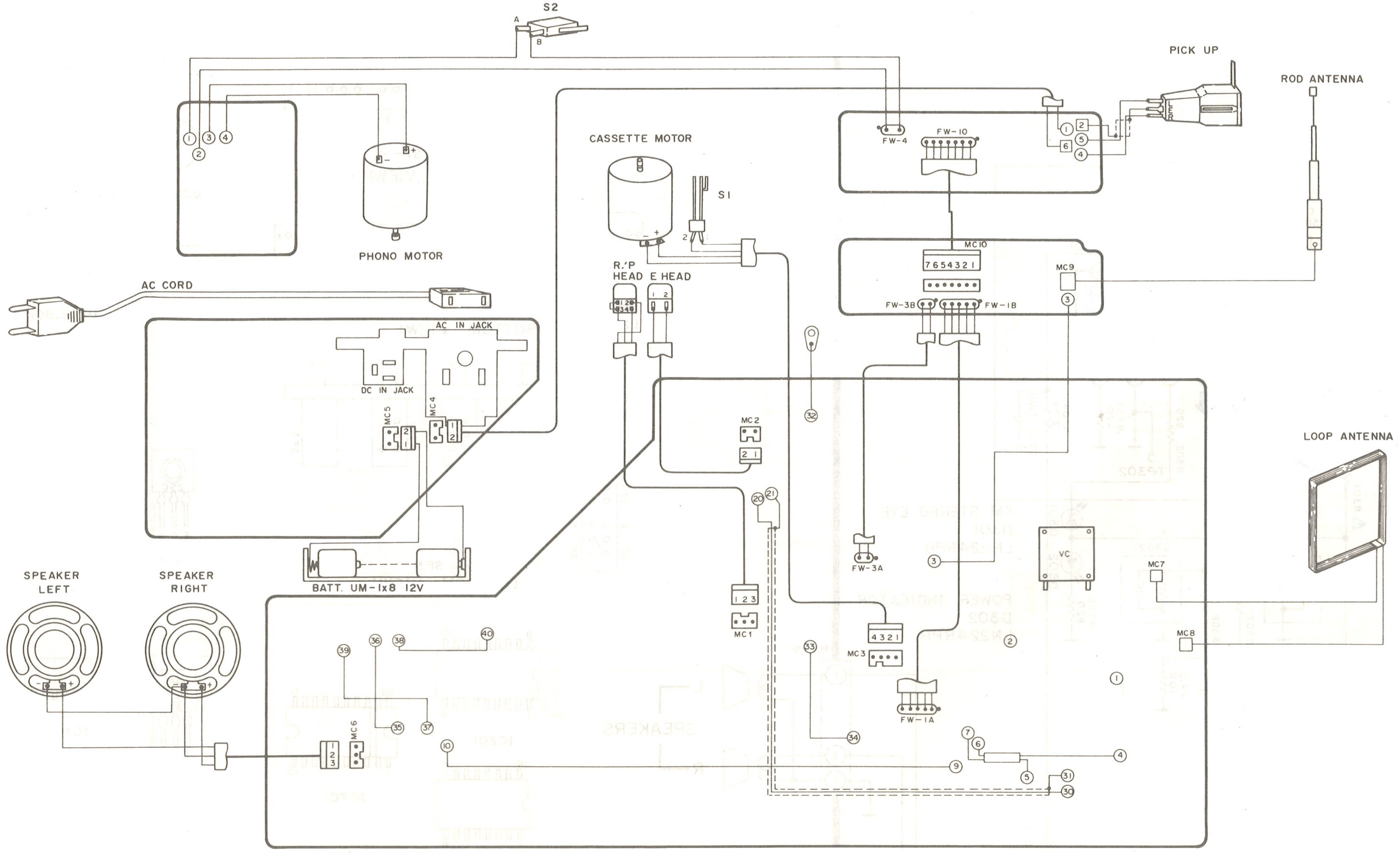
# TAPE DECK SERVICE AID

**When the cassette tape is caught around the capstan shaft:**

Remove 7 screws on the cabinet, and open the front panel, then turn the flywheel counterclockwise.


Cabinet
Flywheel
Turn
Front Panel

# WIRING CONNECTION


S2
A
B
PICK UP
ROD ANTENNA
FW-4
FW-10
CASSETTE MOTOR
S1
PHONO MOTOR
AC CORD
MC10
7654321
MC9
FW-3B
FW-1B
R.'P
HEAD
E HEAD
AC IN JACK
DC IN JACK
MC5
MC4
MC2
MC1
MC3
4321
123
FW-3A
FW-1A
VC
MC7
MC8
LOOP ANTENNA
BATT. UM-1x8 12V
SPEAKER
LEFT
SPEAKER
RIGHT
MC6

# REPLACEMENT PARTS LIST

**NOTE:**

1. Important safety notice:
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
2. Parts No. listed in this Parts List are Service Parts.

### Numbering System of Resister

| Type | Wattage | Tolerance | Value |
|---|---|---|---|
| Three Letters | One or Two Letters | Two or Three Letters | Three or Four Letters |

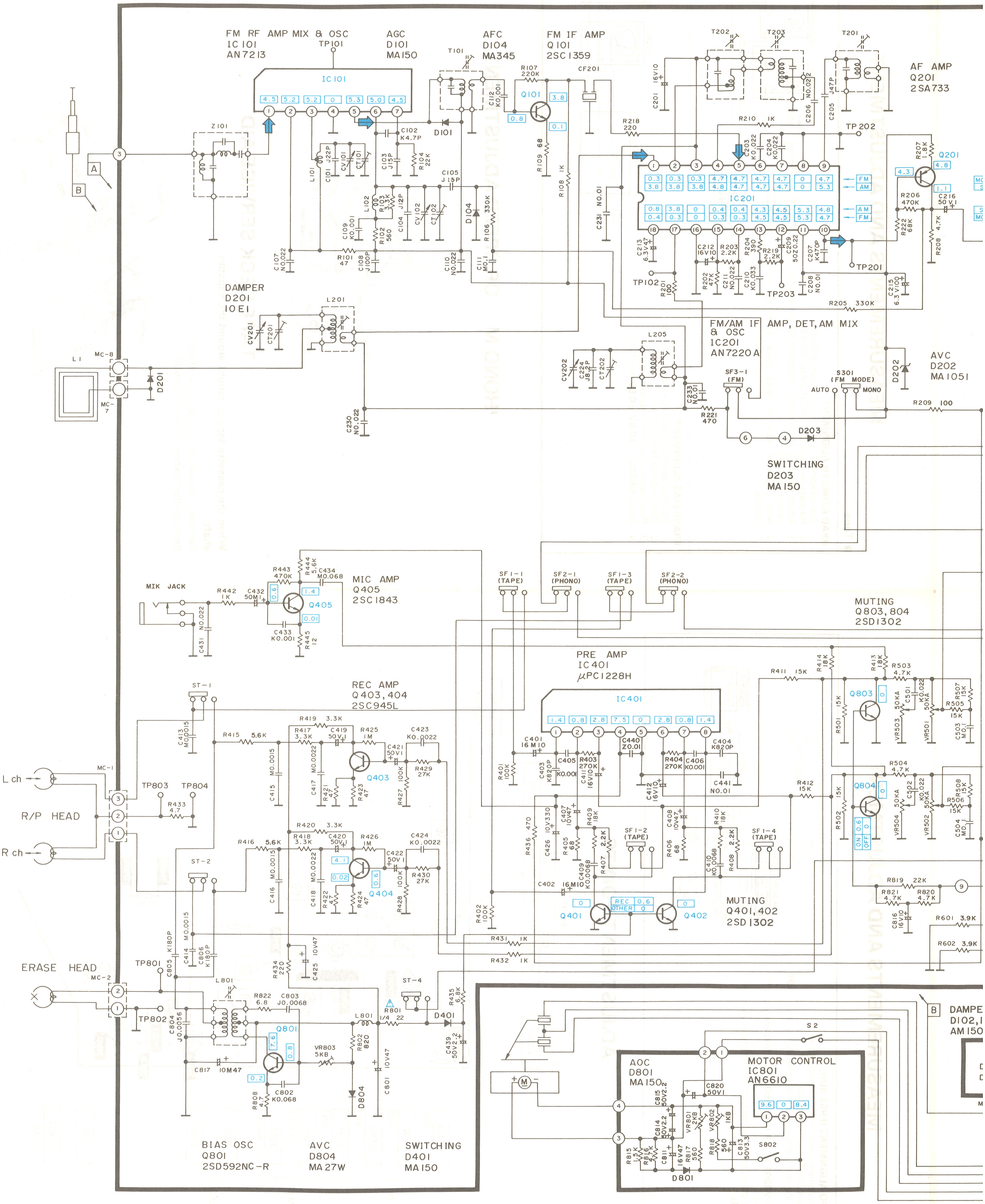
Example:

| E R D | 2 5 | T J | 1 0 1 |
|---|---|---|---|

| Resistor Type | | Wattage | | Tolerance | |
|---|---|---|---|---|---|
| ERD: | Carbon Film | 1: | 1W | F: | ±1% |
| ERC: | Solid | 2: | 2W | J: | ±5% |
| ERX: | Metal Film | 12: | 1/2W | K: | ±10% |
| ERG: | Metal Oxide Film | 18: | 1/8W | | |
| ERO: | High Stability Metal Film | 25: | 1/4W | | |
| ERF: | Flaneproof Wire-Wound Bath-Tube | | | | |
| ERQ: | Fuse Type Metal Film | 50: | 1/2W | | |
| RRD: | Chip | 2F: | 1/4W | | |

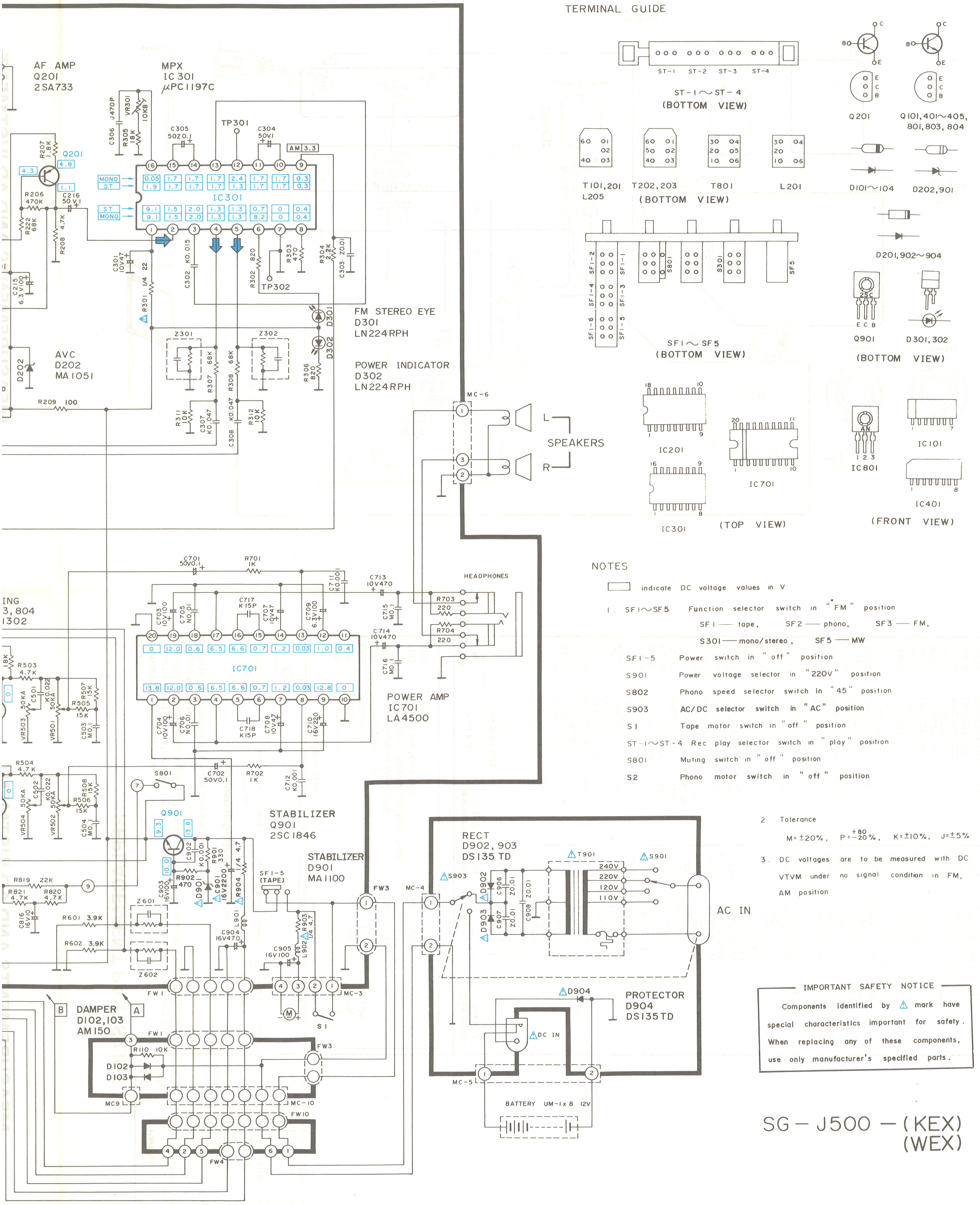
| Ref. No. | Part No. | Description (Unit: Ω) |
|---|---|---|
| | **RESISTORS** | |
| R101 | ERD25FJ470 | 47 |
| R102 | ERD25FJ561 | 560 |
| R103 | ERD25FJ332 | 3.3k |
| R104 | ERD25TJ223 | 22k |
| R106 | ERD25TJ334 | 330k |
| R107 | ERD25TJ224 | 220k |
| R108 | ERD25FJ102 | 1k |
| R109 | ERD25FJ680 | 68 |
| R110 | ERD25FJ103 | 10k |
| R201 | ERD25FJ101 | 100 |
| R202 | ERD25TJ473 | 47k |
| R203 | ERD25FJ222 | 2.2k |
| R204 | ERD25FJ391 | 390 |
| R205 | ERD25TJ334 | 330k |
| R206 | ERD25TJ474 | 470k |
| R207 | ERD25FJ182 | 1.8k |
| R208 | ERD25FJ472 | 4.7k |
| R209 | ERD25FJ101 | 100 |
| R210 | ERD25FJ102 | 1k |
| R216 | ERD25FJ470 | 47 |
| R218 | ERD25FJ221 | 220 |
| R219 | ERD25FJ472 | 4.7k |
| R221 | ERD25FJ471 | 470 |
| R222 | ERD25TJ683 | 68k |
| R301 | ERD25FJ220 | 22 |
| R302 | ERD25FJ821 | 820 |
| R303 | ERD25FJ471 | 470 |
| R304 | ERD25FJ222 | 2.2k |
| R305 | ERD25TJ183 | 18k |
| R306 | ERD25FJ821 | 820 |
| R307 | ERD25TJ683 | 68k |
| R308 | ERD25TJ683 | 68k |
| R311 | ERD25FJ103 | 10k |
| R312 | ERD25FJ103 | 10k |
| R401 | ERD25TJ104 | 100k |
| R402 | ERD25TJ104 | 100k |
| R403 | ERD25TJ274 | 270k |
| R404 | ERD25TJ274 | 270k |
| R405 | ERD25FJ680 | 68 |
| R406 | ERD25FJ680 | 68 |
| R407 | ERD25FJ222 | 2.2k |
| R408 | ERD25FJ222 | 2.2k |
| R409 | ERD25TJ183 | 18k |
| R410 | ERD25TJ183 | 18k |
| R411 | ERD25TJ153 | 15k |
| R412 | ERD25TJ153 | 15k |
| R413 | ERD25TJ183 | 18k |
| R414 | ERD25TJ183 | 18k |
| R415 | ERD25FJ562 | 5.6k |
| R416 | ERD25FJ562 | 5.6k |
| R417 | ERD25FJ332 | 3.3k |
| R418 | ERD25FJ332 | 3.3k |
| R419 | ERD25FJ332 | 3.3k |
| R420 | ERD25FJ332 | 3.3k |
| R421 | ERD25FJ470 | 47 |
| R422 | ERD25FJ470 | 47 |
| R423 | ERD25FJ470 | 47 |
| R424 | ERD25FJ470 | 47 |
| R425 | ERD25TJ105 | 1M |
| R426 | ERD25TJ105 | 1M |
| R427 | ERD25TJ104 | 100k |
| R428 | ERD25TJ104 | 100k |
| R429 | ERD25TJ273 | 27k |
| R430 | ERD25TJ273 | 27k |
| R431 | ERD25FJ102 | 1k |
| R432 | ERD25FJ102 | 1k |
| R433 | ERD25FJ4R7 | 4.7 |
| R434 | ERD25FJ221 | 220 |
| R435 | ERD25FJ682 | 6.8k |
| R436 | ERD25FJ471 | 470 |
| R442 | ERD25FJ102 | 1k |
| R443 | ERD25TJ474 | 470k |
| R444 | ERD25FJ562 | 5.6k |
| R445 | ERD25FJ120 | 12 |
| R501 | ERD25TJ153 | 15k |
| R502 | ERD25TJ153 | 15k |
| R503 | ERD25FJ472 | 4.7k |
| R504 | ERD25FJ472 | 4.7k |
| R505 | ERD25TJ153 | 15k |
| R506 | ERD25TJ153 | 15k |
| R507 | ERD25TJ153 | 15k |
| R508 | ERD25TJ153 | 15k |
| R601 | ERD25FJ392 | 3.9k |
| R602 | ERD25FJ392 | 3.9k |
| R701 | ERD25FJ102 | 1k |
| R702 | ERD25FJ102 | 1k |
| R703 | ERD25FJ221 | 220 |
| R704 | ERD25FJ221 | 220 |
| R801 | ⚠ ERD2FCG220P | 22 |
| R802 | ERD25FJ821 | 820 |
| R805 | ERD25TJ393 | 39k |
| R808 | ERD25FJ4R7 | 4.7 |
| R815 | ERD25FJ152 | 1.5k |
| R816 | ERD25FJ472 | 4.7k |
| R817 | ERD25FJ561 | 560 |
| R818 | ERD25FJ561 | 560 |
| R819 | ERD25TJ223 | 22k |
| R820 | ERD25FJ472 | 4.7k |
| R821 | ERD25FJ472 | 4.7k |
| R822 | ERD25FJ6R8 | 6.8 |
| R901 | ERD25FJ331 | 330 |
| R902 | ERD25FJ471 | 470 |
| R903 | ⚠ ERD2FCJ4R7P | 4.7 |
| R904 | ⚠ ERD2FCJ4R7P | 4.7 |

# SCHEMATIC DIA


FM RF AMP MIX & OSC
IC101
AN7213
TP101
AGC
D101
MA150
AFC
D104
MA345
FM IF AMP
Q101
2SC1359
T101
T202
T203
T201
AF AMP
Q201
2SA733
IC101
4.5
5.2
5.2
0
5.3
5.0
4.5
Z101
A
B
C102 K4.7P
D101
R107 220K
CF201
Q101
3.8
0.8
0.1
R109 68
R108 1K
C112 K0.001
C201 16V10
C206 N0.022
C205 47P
R218 220
R210 1K
TP202
C203 K0.022
C204 K0.022
R207 1.8K
Q201
4.3
4.8
1.1
C216 50V1
R206 470K
R222 68K
R208 4.7K
IC201
0.3 0.3 0.3 4.7 4.7 4.7 4.7 0 4.7 FM
3.8 3.8 3.8 4.8 4.7 4.7 4.7 0 5.3 AM
0.8 3.8 0 0.4 0.4 4.3 4.5 5.3 4.8 AM
0.4 0.3 0 0.3 0.3 4.5 4.5 5.3 4.7 FM
C231 N0.01
L101
C101 J22P
CV101
CT101
C103 J15P
R104 22K
C105 J15P
L102
R103 3.3K
C104 J12P
CV102
CT102
D104
R106 330K
C109 K0.001
R102 560
R101 47
C107 N0.022
C108 J100P
C110 N0.022
C111 M0.1
C213 6.3V47
C212 16V10
R203 2.2K
R204 390
R219 2.2K
C209 50Z0.22
C207 K470P
TP201
TP102
R201 100
R202 47K
C211 N0.022
C210 K0.033
TP203
C208 N0.01
C215 6.3V100
R205 330K
DAMPER
D201
10E1
L201
CV201
CT201
FM/AM IF AMP, DET, AM MIX & OSC
IC201
AN7220A
L205
CV202
C224 J8P
CT202
C233 N0.01
SF3-1 (FM)
S301 (FM MODE)
AUTO
MONO
D202
AVC
D202
MA1051
R209 100
R221 470
C230 N0.022
D203
SWITCHING
D203
MA150
L1
MC-8
MC-7
D201
MIK JACK
R442 1K
C432 50M1
C431 N0.022
R443 470K
R444 5.6K
C434 M0.068
0.6
1.4
Q405
0.01
C433 K0.001
R445 12
MIC AMP
Q405
2SC1843
SF1-1 (TAPE)
SF2-1 (PHONO)
SF1-3 (TAPE)
SF2-2 (PHONO)
MUTING
Q803, 804
2SD1302
PRE AMP
IC401
μPC1228H
IC401
1.4 0.8 2.8 7.5 0 2.8 0.8 1.4
C401 16M10
C403 K820P
C405 K0.001
R403 270K
C411 16V10
C440 Z0.01
R404 270K
C406 K0.001
C404 K820P
C441 N0.01
C412 16V10
R401 100K
R411 15K
R414 18K
R413 18K
R503 4.7K
Q803
0
R501 15K
VR503 50KA
C501 K0.022
VR501 50KA
R507 15K
R505 15K
C503 M0.1
R504 4.7K
Q804
0
ON 0.6
OFF 0
R502 15K
VR504 50KA
C502 K0.022
VR502 50KA
R508 15K
R506 15K
C504 M0.1
R412 15K
REC AMP
Q403, 404
2SC945L
ST-1
C413 M0.0015
R415 5.6K
R419 3.3K
R417 3.3K
C419 50V1
R425 1M
C423 K0.0022
C421 50V1
R429 27K
C415 M0.0015
C417 M0.0022
R421 47
R423 47
Q403
R427 100K
L ch
MC-1
TP803
TP804
R433 4.7
R/P HEAD
R ch
ST-2
R416 5.6K
R420 3.3K
R418 3.3K
C420 50V1
R426 1M
C424 K0.0022
C422 50V1
R430 27K
C416 M0.0015
C418 M0.0022
4.1
0.02
0.6
Q404
R422 47
R424 47
R428 100K
R436 470
C426 10V330
C407 10V47
R409 18K
R405 68
R407 2.2K
C409 K0.0068
SF1-2 (TAPE)
C408 10V47
R406 68
R410 18K
C410 K0.0068
R408 2.2K
SF1-4 (TAPE)
C402 16M10
REC 0.6
OTHER 0
Q401
Q402
MUTING
Q401, 402
2SD1302
R402 100K
R431 1K
R432 1K
R819 22K
R821 4.7K
R820 4.7K
C816 16V10
R601 3.9K
R602 3.9K
9
ERASE HEAD
MC-2
TP801
C805 K180P
C414 M0.0015
C806 K180P
R434 220
C425 10V47
L801
R822 6.8
C803 J0.0068
ST-4
R435 6.8K
TP802
C804 J0.0056
Q801
7.6
0.8
VR803 5KB
R802 820
L801
R801 1/4 22
D401
C439 50V2.2
C817 10M47
0.2
C802 K0.068
R808 4.7K
D804
C801 10V47
BIAS OSC
Q801
2SD592NC-R
AVC
D804
MA27W
SWITCHING
D401
MA150
M
S2
AOC
D801
MA150
MOTOR CONTROL
IC801
AN6610
C820 50V1
C815 50V2.2
9.6 0 8.4
C814 50V2.2
VR801 2KB
VR802 1KB
R815 1.5K
R816 4.7K
C811 16V47
R817 560
R818 560
C813 50V3.3
S802
D801
B
DAMPE
D102,1
AM150

* This diagram might be modified without notice for further development of technology.

## MATIC DIAGRAM


TERMINAL GUIDE
ST-1 ST-2 ST-3 ST-4
ST-1 ~ ST-4 (BOTTOM VIEW)
Q201
Q101,401~405, 801,803,804
T101,201 L205
T202,203
T801
L201
(BOTTOM VIEW)
D101~104
D202,901
D201,902~904
Q901
D301,302
(BOTTOM VIEW)
SF1~SF5 (BOTTOM VIEW)
IC201
IC701
IC301
(TOP VIEW)
IC801
IC101
IC401
(FRONT VIEW)
AF AMP Q201 2SA733
MPX IC301 μPC1197C
IC301
TP301
TP302
AM 3.3
MONO ST
ST MONO
FM STEREO EYE D301 LN224RPH
POWER INDICATOR D302 LN224RPH
AVC D202 MA1051
MC-6
SPEAKERS
L
R
HEADPHONES
IC701
POWER AMP IC701 LA4500
STABILIZER Q901 2SC1846
STABILIZER D901 MA1100
RECT D902,903 DS135TD
AC IN
240V
220V
120V
110V
S901
S903
T901
PROTECTOR D904 DS135TD
DC IN
BATTERY UM-1 x 8 12V
DAMPER D102,103 AM150
FW1
FW3
FW4
FW10
MC-3
MC-4
MC-5
MC9
MC-10
S801
SF1-5 (TAPE)
S1
Z301
Z302
Z601
Z602
A
B

NOTES

▭ indicate DC voltage values in V

1. SF1~SF5 Function selector switch in "FM" position
SF1 — tape, SF2 — phono, SF3 — FM,
S301 — mono/stereo, SF5 — MW

| | |
|---|---|
| SF1-5 | Power switch in "off" position |
| S901 | Power voltage selector in "220V" position |
| S802 | Phono speed selector switch in "45" position |
| S903 | AC/DC selector switch in "AC" position |
| S1 | Tape motor switch in "off" position |
| ST-1~ST-4 | Rec play selector switch in "play" position |
| S801 | Muting switch in "off" position |
| S2 | Phono motor switch in "off" position |

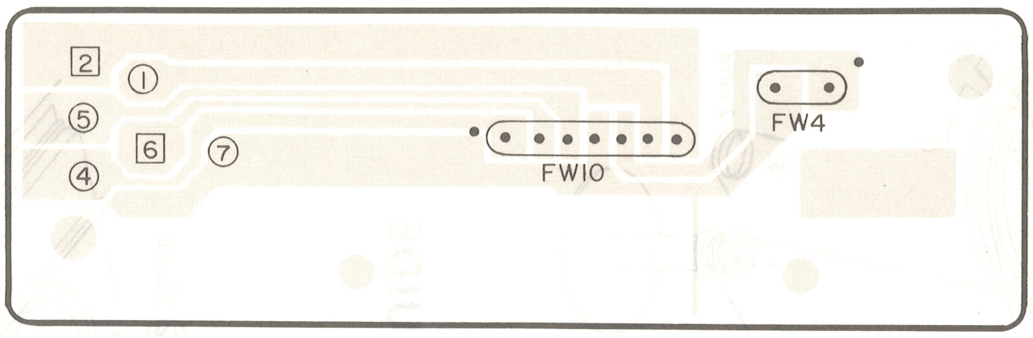
2. Tolerance
M=±20%, P=$^{+80}_{-20}$%, K=±10%, J=±5%

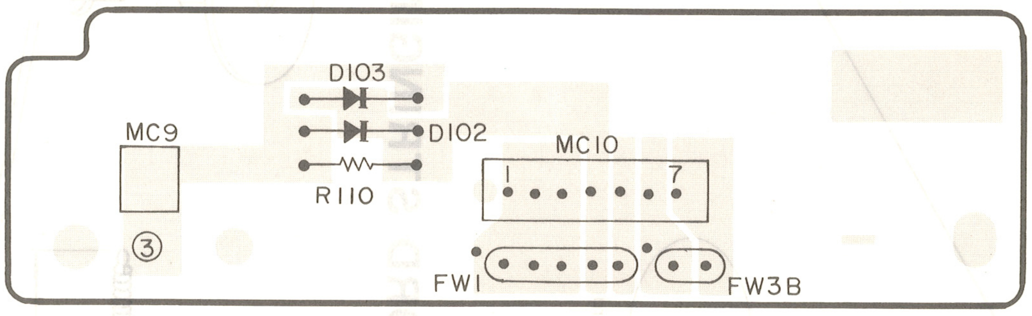
3. DC voltages are to be measured with DC VTVM under no signal condition in FM, AM position.

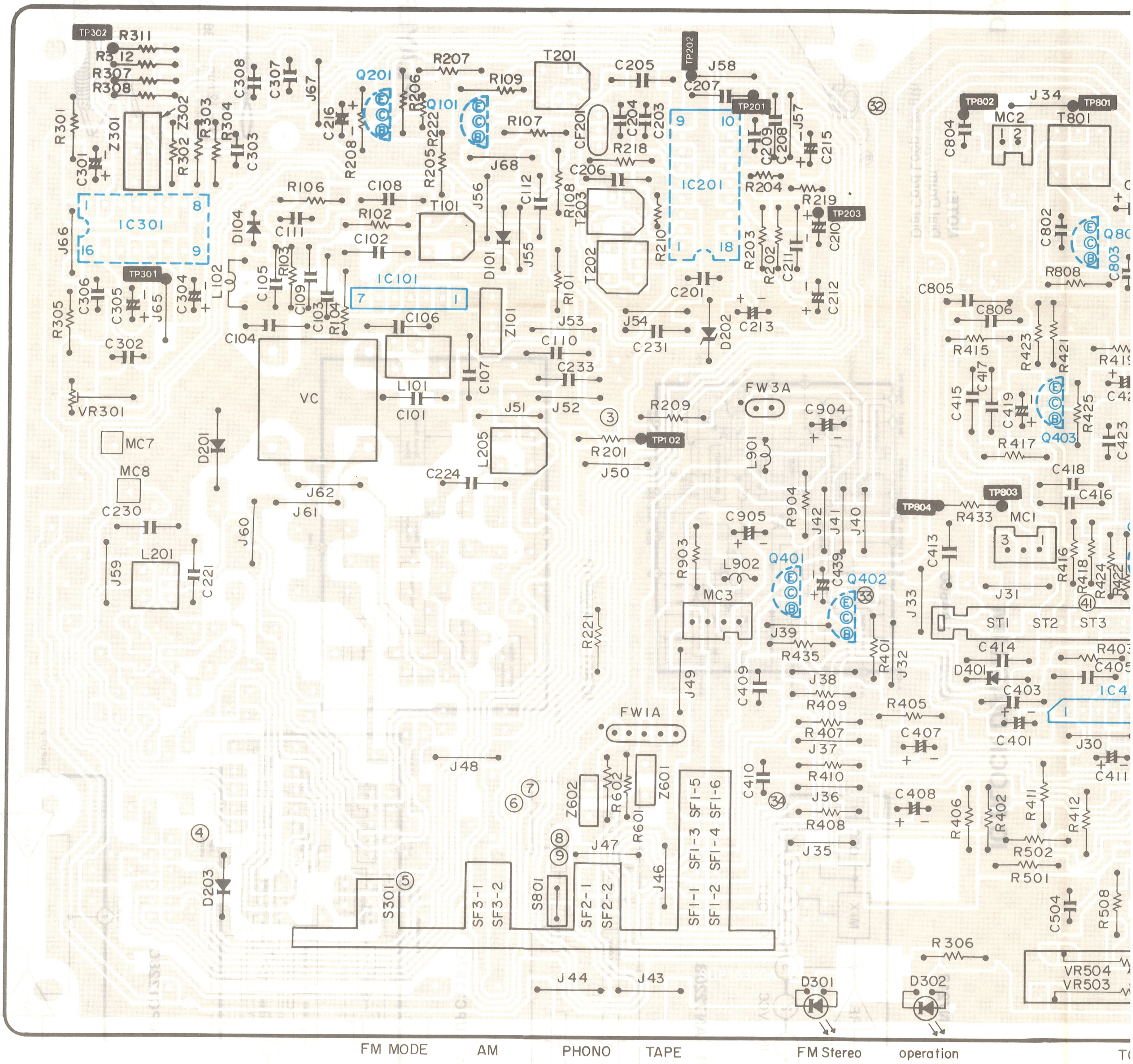
**IMPORTANT SAFETY NOTICE**

Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

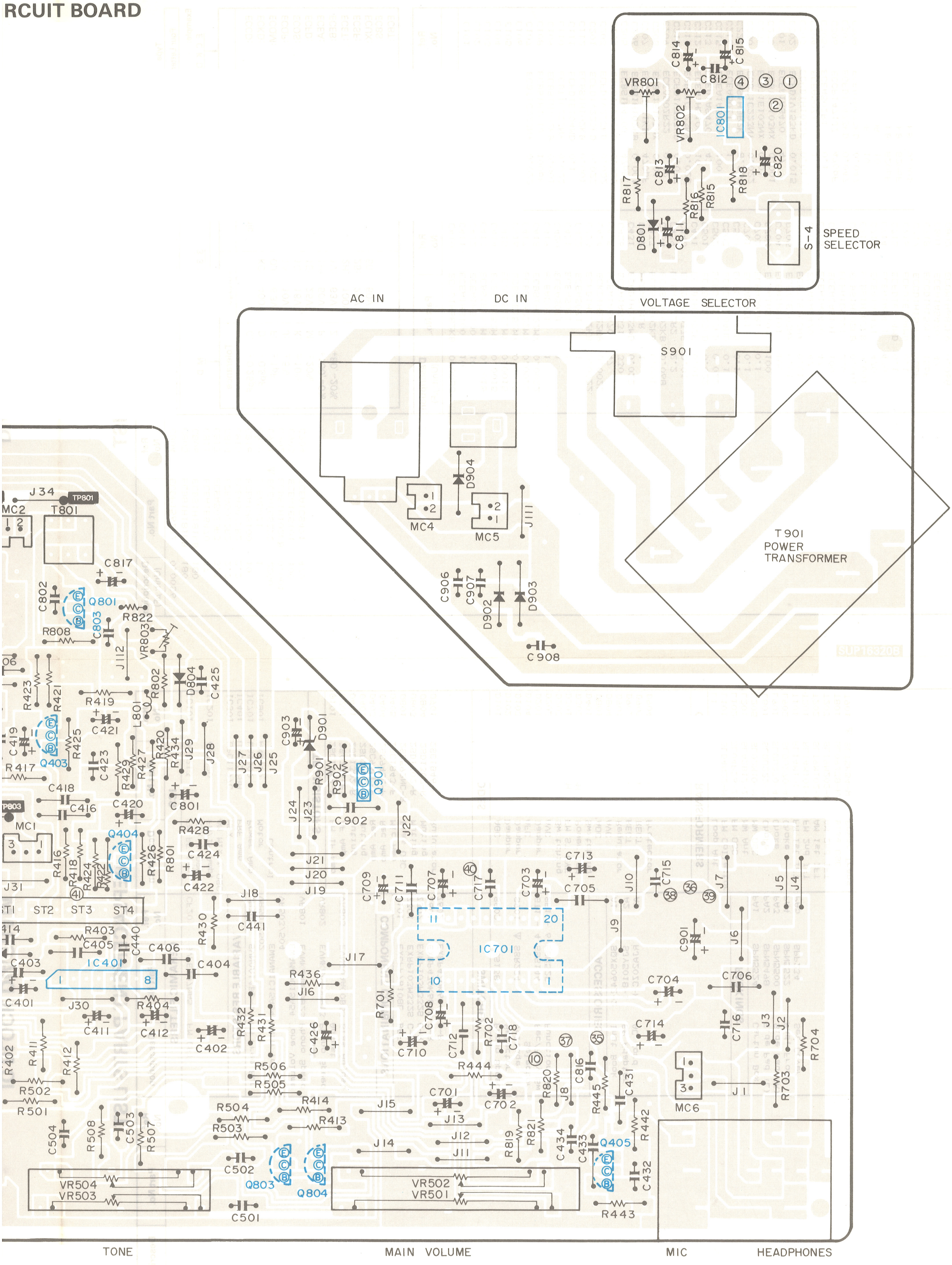
SG-J500-(KEX)
(WEX)


FW4
FW10


D103
MC9
D102
MC10
1
7
R110
3
FW1
FW3B


TP302
R311
R312
R307
R308
R301
C301
Z301
R302
Z302
R303
R304
C303
C308
C307
J67
C216
R208
Q201
R206
R222
R205
Q101
R207
R109
R107
T201
CF201
C205
TP202
J58
C207
C204
C203
TP201
J57
C209
C208
C215
TP802
J34
TP801
MC2
T801
C804
IC301
1
8
16
9
J66
D104
R106
C108
C111
R102
T101
J56
C112
J68
R108
T203
C206
R218
IC201
9
10
1
18
R204
R219
TP203
C210
C802
Q801
C803
R808
TP301
C306
C305
J65
C304
L102
C105
R103
C109
C103
R104
C102
IC101
7
1
D101
J55
R101
T202
R210
R203
R202
C211
C212
C201
C213
D202
C805
C806
R415
R423
R421
R419
R305
C302
C104
C106
VC
L101
C101
C107
Z101
J53
C110
C233
J54
C231
FW3A
C904
C415
C417
C419
Q403
R425
C423
C422
VR301
MC7
MC8
D201
J51
J52
3
L205
R209
R201
TP102
J50
L901
R417
C418
C416
TP803
TP804
R433
MC1
3
C224
J62
J61
C230
J60
L201
C221
J59
C905
R904
J42
J41
J40
R903
L902
Q401
C439
Q402
33
MC3
C413
J33
J31
R416
R418
R424
R422
41
ST1
ST2
ST3
R221
J39
R435
R401
J32
C414
R403
D401
C405
C409
J38
R409
C403
IC4
1
J49
R405
C401
FW1A
R407
C407
J37
J30
C411
J48
R410
C410
34
J36
C408
7
6
Z602
R602
R601
Z601
R406
R402
R411
R412
R408
8
9
J47
J35
R502
R501
4
D203
S301
5
SF3-1
SF3-2
S801
SF2-1
SF2-2
J46
SF1-1
SF1-2
SF1-3
SF1-4
SF1-5
SF1-6
C504
R508
R306
VR504
VR503
J44
J43
D301
D302
FM MODE
AM
PHONO
TAPE
FM Stereo
operation
T

# RCUIT BOARD


C814
C815
VR801
C812
④ ③ ①
②
IC801
VR802
C813
C820
R817
R818
R816
R815
D801
C811
S-4
SPEED SELECTOR
AC IN
DC IN
VOLTAGE SELECTOR
S901
D904
MC4
MC5
J111
T901
POWER TRANSFORMER
C906
C907
D902
D903
C908
J34
TP801
MC2
T801
C817
C802
Q801
R822
R808
C803
VR803
J112
R423
R421
R802
D804
C425
R419
C421
L801
C419
Q403
R425
C423
R429
R427
R420
R434
J29
J28
J27
J26
J25
C903
D901
R901
R902
Q901
R417
C418
C416
C420
C801
TP803
MC1
J24
J23
C902
J22
Q404
R428
C424
R416
R418
R424
R422
R426
R801
C422
J21
J20
J19
J31
ST1
ST2
ST3
ST4
J18
C441
R403
C405
C440
R430
C406
C404
C403
IC401
C401
J30
R404
C411
C412
C402
R402
R411
R412
R502
R501
R436
J16
J17
R432
R431
C426
C709
C711
C707
C717
C703
C713
C705
J10
C715
J7
J5
J4
J9
IC701
C901
J6
R701
C708
C710
C712
R702
C718
C704
C714
C706
C716
J3
J2
R704
R506
R505
R504
R503
R414
R413
J15
C701
C702
J13
J12
J11
J14
R444
R820
J8
C816
R445
C431
MC6
J1
R703
R819
R821
C434
C433
Q405
R442
C432
C504
R508
C503
R507
C502
Q803
Q804
C501
VR504
VR503
VR502
VR501
R443
TONE
MAIN VOLUME
MIC
HEADPHONES

# REPLACEMENT PARTS LIST

## Numbering System of Capacitor

| Type | Voltage | Value | Tolerance |
|---|---|---|---|
| Four Letters | One or Two Letters | Two or Five Letters | One or Two Letters |

Example:

| | | | |
|---|---|---|---|
| E C K D | 1 H | 3 3 3 | M D |

| Capacitor Type | | Voltage | | Tolerance | |
|---|---|---|---|---|---|
| ECCD: | Temperature Compensating Ceramic | | | C: | ±0.25pF |
| ECKD: | High dielectric Constant Ceramic | KC: | 400V | D: | ±0.5pF |
| ECQM: | Polyester | OJ: | 6.3V | F: | ±1pF |
| ECQP: | Polypropylene Film | 1A: | 10V | J: | ±5% |
| ECQS: | Polystylene Film | 1C: | 16V | K: | ±10% |
| ECFD: | Semiconductor Ceramic | 1E: | 25V | M: | ±20% |
| ECEA: | Electrolytic | 1H: | 50V | P: | +100, −0% |
| ECEB: | Electrolytic | 1V: | 63V | Z: | +80, −20% |
| ECET: | Electrolytic | 2H: | 100V | | |
| ECSF: | Tantalum | 25: | 25V | | |
| ECUX: | Chip | 50: | 50V | | |
| ECBS: | Ceramic | | | | |
| ECBT: | Ceramic | | | | |

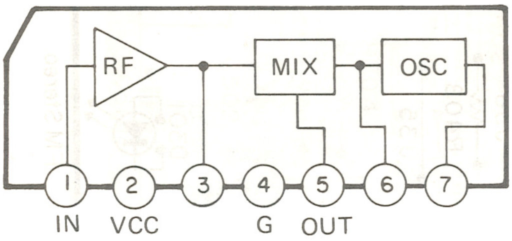
| Ref. No. | Part No. | Description (Unit: μF) |
|---|---|---|
| **CAPACITORS** | | |
| C101 | ECBS1H220J | 22pF |
| C102 | ECBS1H4R7K | 4.7pF |
| C103 | ECBS1H150J | 15pF |
| C104 | ECBS1H120J | 12pF |
| C105 | ECBS1H150J | 15pF |
| C106 | ECBS1H102KB | 0.001 |
| C107 | ECBT1C223NY | 0.022 |
| C108 | ECBS1H101J | 100pF |
| C109 | ECBS1H102KB | 0.001 |
| C110 | ECBT1C223NY | 0.022 |
| C111 | ECFD1E104MD | 0.1 |
| C112 | ECBS1H102KB | 0.001 |
| C201 | ECFD1V223KD | 0.022 |
| C203 | ECFD1V223KD | 0.022 |
| C204 | ECFD1V223KD | 0.022 |
| C205 | ECBS1H470J | 47pF |
| C206 | ECBS1H102KB | 0.001 |
| C207 | ECS1H471KB | 470pF |
| C208 | ECBT1E103NX | 0.01 |
| C209 | ECEA50ZR22 | 0.22 |
| C210 | ECFD1V333KD | 0.033 |
| C211 | ECBT1C223NY | 0.022 |
| C212 | ECEA1HS100 | 10 |
| C213 | ECEA1AS470 | 47 |
| C215 | ECEA1AS101 | 100 |
| C216 | ECEA50Z1 | 1 |
| C224 | ECBS1H8R2K | 8.2pF |
| C230 | ECBT1C223NY | 0.022 |
| C231 | ECBT1E103NX | 0.01 |
| C233 | ECBT1E103NX | 0.001 |
| C301 | ECEA1AS470 | 47 |
| C302 | ECFD1V153KD | 0.015 |
| C303 | ECKD1H103ZF | 0.01 |
| C304 | ECEA50Z1 | 1 |
| C305 | ECEA50ZR1 | 0.1 |
| C306 | ECQP1471JZ | 470pF |
| C307 | ECFD1V473KD | 0.047 |
| C308 | ECFD1V473KD | 0.047 |
| C401 | ECEA16M10R | 10 |
| C402 | ECEA16M10R | 10 |
| C403 | ECBS1H821KB | 820pF |
| C404 | ECBS1H821KB | 620pF |
| C405 | ECBS1H102KB | 0.001 |
| C406 | ECBS1H102KB | 0.001 |
| C407 | ECEA1AS470 | 47 |
| C408 | ECEA1AS470 | 47 |
| C409 | ECKD1H682KB | 0.0068 |
| C410 | ECKD1H682KB | 0.0068 |
| C411 | ECEA1HS100 | 10 |
| C412 | ECEA1HS100 | 10 |
| C413 | ECBS1E152MX | 0.0015 |
| C414 | ECBS1E152MX | 0.0015 |
| C415 | ECBS1E152MX | 0.0015 |
| C416 | ECBS1E152MX | 0.0015 |
| C417 | ECBS1H222MX | 0.0022 |
| C418 | ECBS1H222MX | 0.0022 |
| C419 | ECEA50Z1 | 1 |
| C420 | ECEA50Z1 | 1 |
| C421 | ECEA50Z1 | 1 |
| C422 | ECEA50Z1 | 1 |
| C423 | ECKD1H222KB | 0.0022 |
| C424 | ECKD1H222KB | 0.0022 |
| C425 | ECEA1AS470 | 47 |
| C426 | ECEA1AS331 | 330 |
| C431 | ECKD1H223MD | 0.022 |
| C432 | ECEA50M1R | 1 |
| C433 | ECBS1H102KB | 0.001 |
| C434 | ECBS1H102KB | 0.068 |
| C439 | ECEA50Z2R2 | 2.2 |
| C440 | ECKD1H103ZF | 0.01 |
| C441 | ECKD1H103ZF | 0.01 |
| C501 | ECFD1V223KD | 0.022 |
| C502 | ECFD1V223KD | 0.022 |
| C503 | ECFD1E104MD | 0.1 |
| C504 | ECFD1E104MD | 0.1 |
| C701 | ECEA50ZR1 | 0.1 |
| C702 | ECEA50ZR1 | 0.1 |
| C703 | ECEA1AS101 | 100 |
| C704 | ECEA1AS101 | 100 |
| C705 | ECBT1E103NX | 0.01 |
| C706 | ECBT1E103NX | 0.01 |
| C707 | ECEA1AS470 | 47 |
| C708 | ECEA1AS470 | 47 |
| C709 | ECEA1AS101 | 100 |
| C710 | ECEA1CS221 | 220 |
| C711 | ECBS1H102KB | 0.001 |
| C712 | ECBS1H102KB | 0.001 |
| C713 | ECEA1AS471 | 470 |
| C714 | ECEA1AS471 | 470 |
| C715 | ECFD1E104MD | 0.1 |
| C716 | ECFD1E104MD | 0.1 |
| C717 | ECCD1H150KC | 15pF |
| C718 | ECCD1H150KC | 15pF |
| C801 | ECEA1AS470 | 47 |
| C802 | ECQM1H683KV | 0.068 |
| C803 | ECQP1682JZ | 0.0068 |
| C804 | ECQP1562JZ | 0.0056 |
| C805 | ECBS1H181KB | 180 |
| C806 | ECBS1H181KB | 180 |
| C811 | ECEA1ES470 | 47 |
| C813 | ECEA50Z3R3 | 3.3 |
| C814 | ECEA50Z2R2 | 2.2 |
| C815 | ECEA50Z2R2 | 2.2 |
| C816 | ECEA1HS100 | 10 |
| C820 | ECEA50Z1 | 1 |
| C901 | ⚠ ECEA1CS222 | 2200 |
| C902 | ECBS1H102KB | 0.001 |
| C903 | ECEA1ES101 | 100 |
| C904 | ECEA1CS471 | 470 |

# REPLACEMENT PARTS LIST

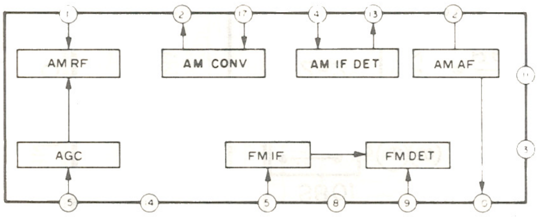
| Ref. No. | Part No. | Description |
|---|---|---|
| **ICS** | | |
| IC101 | AN7213 | FM RF Amp, Mix & OSC |
| IC201 | AN7220 | FM/IF Amp, AM Mix & OSC |
| IC301 | UPC1197C | MPX |
| IC401 | UPC1228H | PRE Amp |
| IC701 | LA4500 | Power Amp |
| IC801 | AN6610 | Motor Control |
| **TRANSISTORS** | | |
| Q101 | 2SC1359-B | FM IF Amp |
| Q201 | 2SA733-P1 | AF Amp |
| Q401 | 2SD1302-R | Muting |
| Q402 | 2SD1302-R | Muting |
| Q403 | 2SC945L-P | Rec Amp |
| Q404 | 2SC945L-P | Rec Amp |
| Q405 | 2SC1843-F | Mic Amp |
| Q801 | 2SD592NC-R | Bias OSC |
| Q803 | 2SD1302-R | Muting |
| Q804 | 2SD1302-R | Muting |
| Q901 | 2SC1846-R | Rugulator |
| **DIODES** | | |
| D101 | MA162A | AGC |
| D102 | MA162A | Damper |
| D103 | MA162A | Damper |
| D104 | MA345 | AFC |
| D201 | SM112 | Damper |
| D202 | MA1051 | AVC |
| D203 | MA162A | Switching |
| D301 | LN224RPH | FM ST EYE |
| D302 | LN224RPH | Power Ind |
| D401 | MA162A | Switching |
| D801 | MA162A | AOC |
| D804 | MA27WB | AVC |
| D901 | ⚠ MA1100 | Regulator |
| D902 | ⚠ DS135TD | RECT |
| D903 | ⚠ DS135TD | RECT |
| D904 | ⚠ DS135TD | Protector |
| **COILS AND TRANSFORMERS** | | |
| L1 | SSA12 | Loop Ant |
| L101 | SLD4N22-M | FM Collector |
| L102 | SL04P26-Z | FM OSC |
| L201 | SLA2B12-Z | MW Ant |
| L205 | SL02M10-M | MW OSC |
| L801 | SLQU222-2Y | Choke |
| L901 | SLQU270-4Y | Choke |
| L902 | SLQU270-4Y | Choke |
| T101 | RLI4M101-M | FM 1st IFT |
| T201 | RLI4M101-M | FM 2nd IFT |
| T202 | SLI9M102-M | AM 1st IFT |
| T203 | SLI9M202-M | AM 2nd IFT |
| T801 | SL09Z38-K | Bias OSC |
| T901 | ⚠ SLT5K54-W | Power Trans |
| **CERAMIC FILTERS** | | |
| CF201 | SVFE107MA5 | FM CFT |
| **VARIABLE RESISTORS** | | |
| VR301 | SVNAA14B2-Q | FM Free Run |
| VR501/502 | EWANA1C15A54 | Main Volume |
| VR503/504 | EWAMA0C15A54 | Tone Volume |
| VR801 | EVNK6AA00B23 | Phono Speed Adjust |
| VR802 | EVNK6AA00B13 | Phono Speed Adjust |
| VR803 | EVNJ0AA00B53 | Bias Adjust |
| **COMPONENT COMBINATIONS** | | |
| Z101 | EXCFF76108L | BPF |
| Z301 | EXRP103M332S | C-R |
| Z302 | EXRP103M332S | C-R |
| Z601 | EXRP470K684S | C-R |
| Z602 | EXRP470K684S | C-R |
| **SWITCHES** | | |
| S802 | SSS138 | Phono Speed Selector |
| S901 | ⚠ SSR224 | Voltage Selector |
| ST1 - 4 | SSS144 | Rec/Play Sw |
| SF1 - 6 | SSH528 | Function Sw |
| **ACCESSORIES** | | |
| A1 | SQX50642-2 | Inst Book |
| A2 | SJY5018-1 | EP Adaptor |
| A3 | RJA20ZC-K | AC Cord |
| **PACKINGS** | | |
| PA1 | SPN5524 | Carton Box |
| PA2 | SPN5498 | Side Pad (L) |
| PA3 | SPN5500 | Side Pad (R) |
| PA4 | SPN5522 | Pad, Front |
| PA5 | SPP234 | Set Cover |
| **VARIABLE CAPACITORS** | | |
| CV101/102/201/202<br>(CT101/102/201/202) | SVCCB41T111 | Variable Capacitor |

# IC BLOCK DIAGRAM

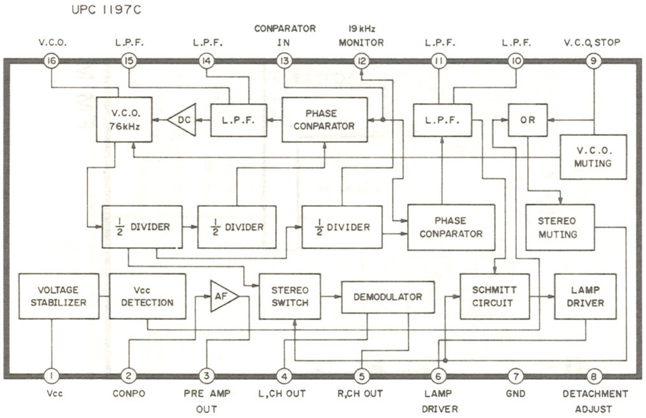
## IC 101 AN7213


RF
MIX
OSC
1
2
3
4
5
6
7
IN
VCC
G
OUT

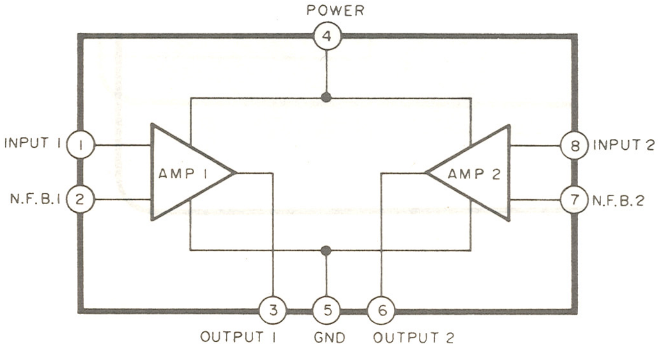
## IC 201 AN7220B


1
2
17
4
13
2
AM RF
AM CONV
AM IF DET
AM AF
AGC
FM IF
FM DET
3
5
4
5
8
9

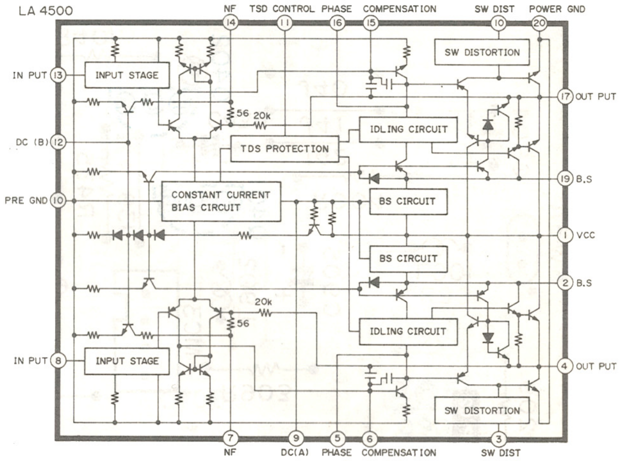
## IC301 UPC1197C


UPC 1197C
V.C.O.
L.P.F.
L.P.F.
CONPARATOR IN
19 kHz MONITOR
L.P.F.
L.P.F.
V.C.O, STOP
16
15
14
13
12
11
10
9
V.C.O. 76kHz
DC
L.P.F.
PHASE CONPARATOR
L.P.F.
OR
V.C.O. MUTING
½ DIVIDER
½ DIVIDER
½ DIVIDER
PHASE CONPARATOR
STEREO MUTING
VOLTAGE STABILIZER
Vcc DETECTION
AF
STEREO SWITCH
DEMODULATOR
SCHMITT CIRCUIT
LAMP DRIVER
1
2
3
4
5
6
7
8
Vcc
CONPO
PRE AMP OUT
L,CH OUT
R,CH OUT
LAMP DRIVER
GND
DETACHMENT ADJUST

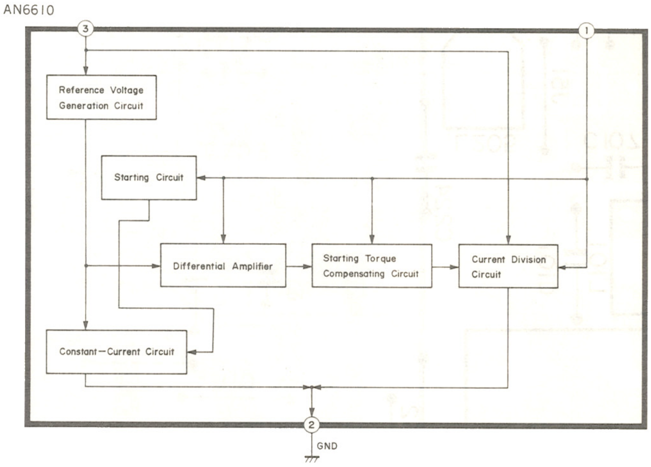
## IC401 UPC1228C


POWER
4
INPUT 1
1
N.F.B.1
2
AMP 1
AMP 2
INPUT 2
8
N.F.B.2
7
3
5
6
OUTPUT 1
GND
OUTPUT 2

## IC 701 LA4500


LA 4500
NF
TSD CONTROL
PHASE
COMPENSATION
SW DIST
POWER GND
14
11
16
15
10
20
IN PUT
13
INPUT STAGE
SW DISTORTION
17
OUT PUT
56
20k
IDLING CIRCUIT
DC (B)
12
TDS PROTECTION
19
B.S
PRE GND
10
CONSTANT CURRENT BIAS CIRCUIT
BS CIRCUIT
1
VCC
BS CIRCUIT
2
B.S
20k
56
IDLING CIRCUIT
IN PUT
8
INPUT STAGE
4
OUT PUT
SW DISTORTION
7
9
5
6
3
NF
DC(A)
PHASE
COMPENSATION
SW DIST

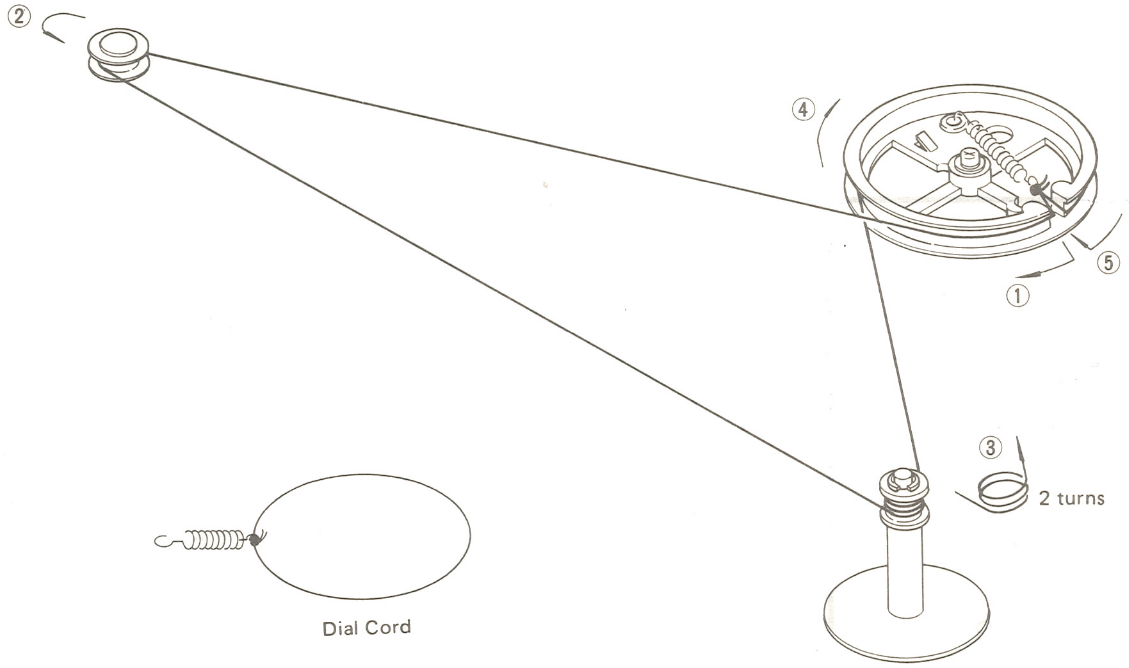
## IC 801 AN6610


AN6610
3
1
Reference Voltage Generation Circuit
Starting Circuit
Differential Amplifier
Starting Torque Compensating Circuit
Current Division Circuit
Constant–Current Circuit
2
GND

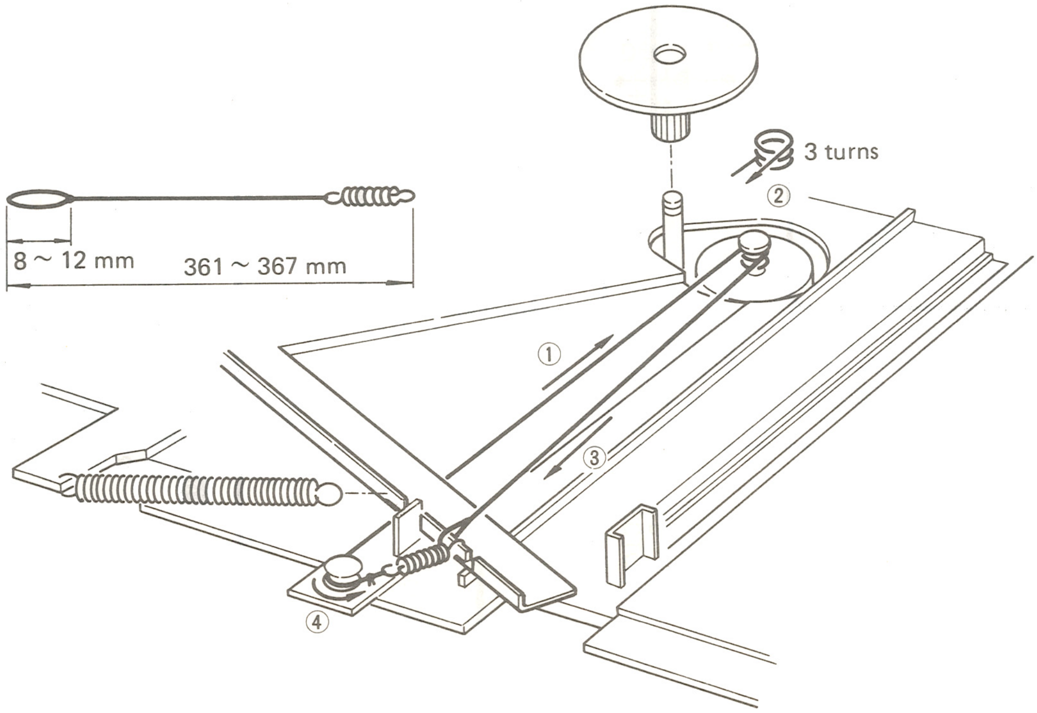
# DIAL CORD STRINGING GUIDE

**NOTE:**

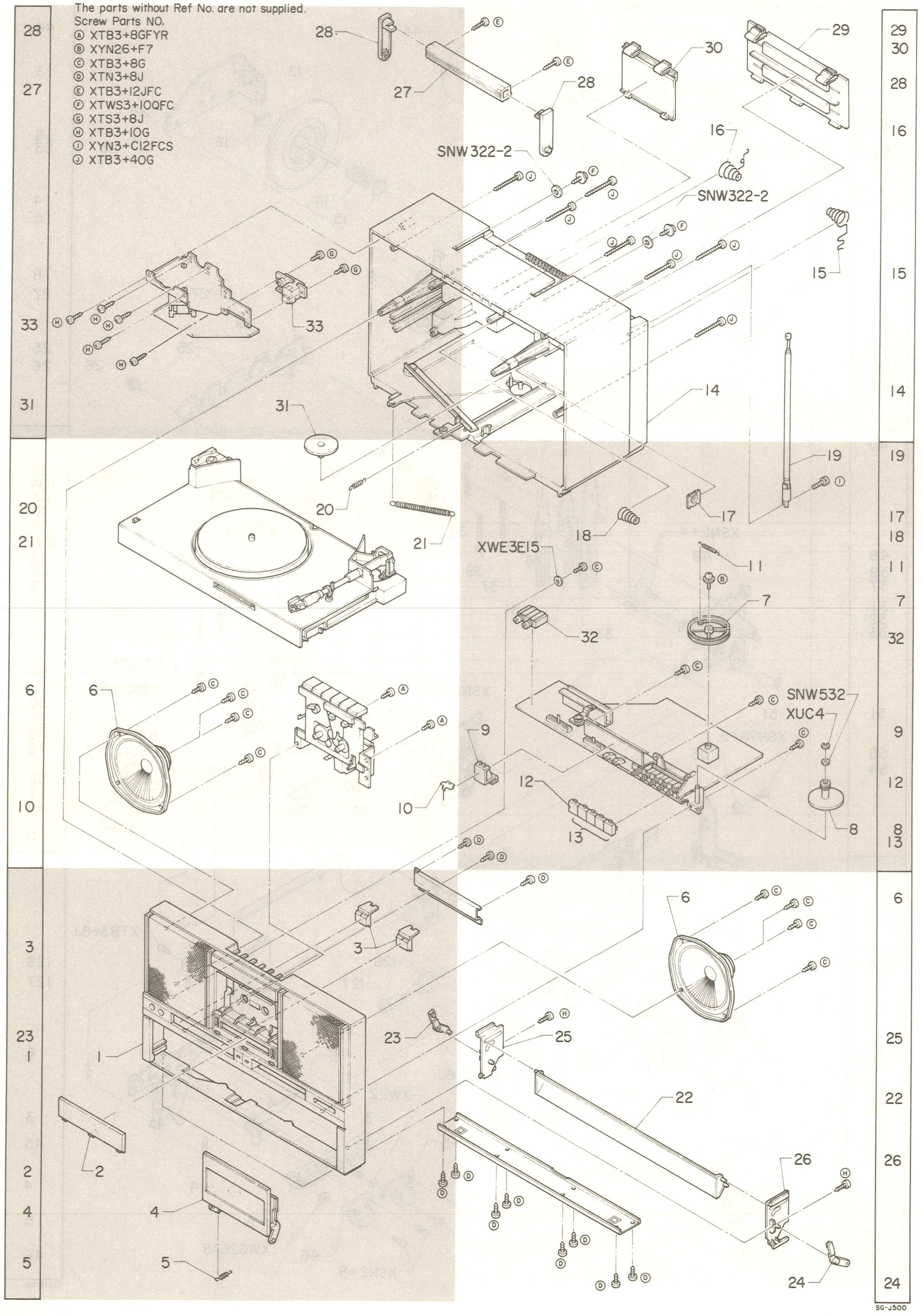
Dial Drum .................................................... Turn Fully Clockwise
Dial Cord Loop Length .............................. 80 cm


②
④
⑤
①
③
2 turns
Dial Cord

# PLAYER CORD STRINGING GUIDE


3 turns
②
8 ~ 12 mm
361 ~ 367 mm
①
③
④

# PARTS LOCATION OF CABINET AND CHASSIS



The parts without Ref No. are not supplied.
Screw Parts NO.
Ⓐ XTB3+8GFYR
Ⓑ XYN26+F7
Ⓒ XTB3+8G
Ⓓ XTN3+8J
Ⓔ XTB3+12JFC
Ⓕ XTWS3+10QFC
Ⓖ XTS3+8J
Ⓗ XTB3+10G
Ⓘ XYN3+C12FCS
Ⓙ XTB3+40G

# REPLACEMENT PARTS LIST OF CABINET AND CHASSIS

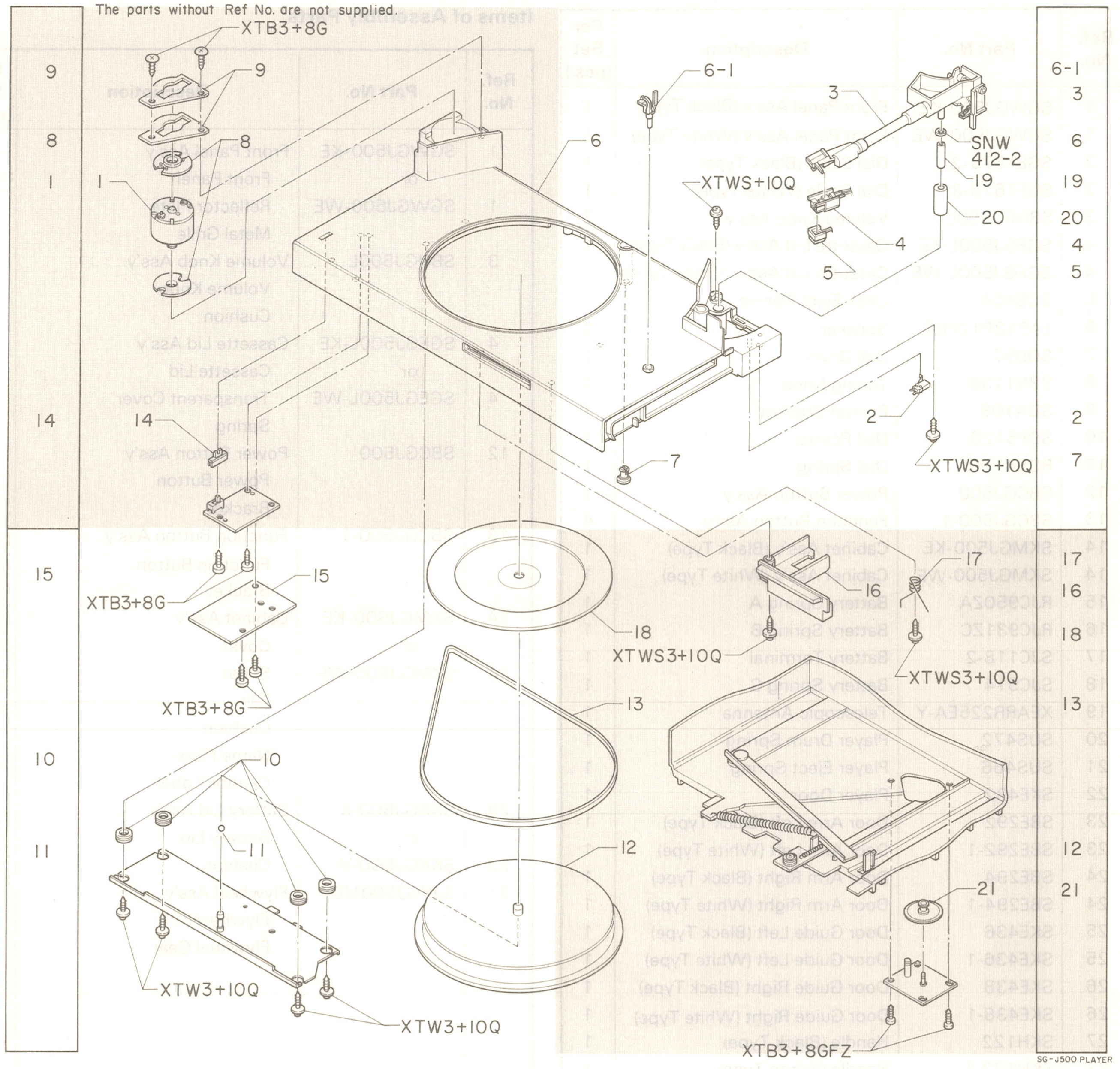
| Ref. No. | Part No. | Description | Per Set (pcs.) |
|---|---|---|---|
| 1 | SGWGJ500-KE | Front Panel Ass’y (Black Type) | 1 |
| 1 | SGWGJ500-WE | Front Panel Ass’y (White Type) | 1 |
| 2 | SGE1678-2 | Dial Scale (Black Type) | 1 |
| 2 | SGE1678-3 | Dial Scale (White Type) | 1 |
| 3 | SBNGJ500L | Volume Knob Ass’y | 2 |
| 4 | SGEGJ500L-KE | Cassette Lid Ass’y (Black Type) | 1 |
| 4 | SGEGJ500L-WE | Cassette Lid Ass’y (White Type) | 1 |
| 5 | SUS464 | Deck Eject Spring | 1 |
| 6 | EAS12P126GG | Speaker | 2 |
| 7 | SDD57 | Dial Drum | 1 |
| 8 | SBN1136 | Tuning Knob | 1 |
| 9 | SDA108 | Pointer Bracket | 1 |
| 10 | SDP5120 | Dial Pointer | 1 |
| 11 | RDS4170A | Dial Spring | 1 |
| 12 | SBCGJ500 | Power Button Ass’y | 1 |
| 13 | SBCGJ500-1 | Function Button Ass’y | 4 |
| 14 | SKMGJ500-KE | Cabinet Ass’y (Black Type) | 1 |
| 14 | SKMGJ500-WE | Cabinet Ass’y (White Type) | 1 |
| 15 | RJC950ZA | Battery Spring A | 1 |
| 16 | RJC931ZC | Battery Spring B | 1 |
| 17 | SJC118-2 | Battery Terminal | 1 |
| 18 | SJC514 | Battery Spring C | 1 |
| 19 | XEARR225EA-Y | Telescopic Antenna | 1 |
| 20 | SUS472 | Player Drum Spring | 1 |
| 21 | SUS466 | Player Eject Spring | 1 |
| 22 | SKE432 | Player Door | 1 |
| 23 | SBE292 | Door Arm Left (Black Type) | 1 |
| 23 | SBE292-1 | Door Arm Left (White Type) | 1 |
| 24 | SBE294 | Door Arm Right (Black Type) | 1 |
| 24 | SBE294-1 | Door Arm Right (White Type) | 1 |
| 25 | SKE436 | Door Guide Left (Black Type) | 1 |
| 25 | SKE436-1 | Door Guide Left (White Type) | 1 |
| 26 | SKE438 | Door Guide Right (Black Type) | 1 |
| 26 | SKE438-1 | Door Guide Right (White Type) | 1 |
| 27 | SKH122 | Handle (Black Type) | 1 |
| 27 | SKH122-1 | Handle (White Type) | 1 |
| 28 | SKH124 | Handle Bracket | 2 |
| 29 | SKKGJ500-K | Battery Lid Ass’y (Black Type) | 1 |
| 29 | SKKGJ500-W | Battery Lid Ass’y (White Type) | 1 |
| 30 | SKK110-3 | Accessory Box Lid (Black Type) | 1 |
| 30 | SKK110-4 | Accessory Box Lid (White Type) | 1 |
| 31 | SJYGJ500MEX | Flywheel Ass’y | 1 |
| 32 | SJJ108 | Headphone/Mic Jack | 1 |
| 33 | RJJ1F2ZA-H | AC/DC IN Jack | 1 |

**Items of Assembly Parts.**

| Ref. No. | Part No. | Description | Per Set (pcs.) |
|---|---|---|---|
| 1 | SGWGJ500-KE | Front Panel Ass’y | 1 |
|  | or | Front Panel | (1) |
| 1 | SGWGJ500-WE | Reflector Plate | (1) |
|  |  | Metal Grille | (2) |
| 3 | SBNGJ500L | Volume Knob Ass’y | 2 |
|  |  | Volume Knob | (2) |
|  |  | Cushion | (2) |
| 4 | SGEGJ500L-KE | Cassette Lid Ass’y | 1 |
|  | or | Cassette Lid | (1) |
| 4 | SGEGJ500L-WE | Transparent Cover | (1) |
|  |  | Spring | (2) |
| 12 | SBCGJ500 | Power Button Ass’y | 1 |
|  |  | Power Button | (1) |
|  |  | Bracket | (1) |
| 13 | SBCGJ500-1 | Function Button Ass’y | 1 |
|  |  | Function Button | (1) |
|  |  | Bracket | (1) |
| 14 | SKMGJ500-KE | Cabinet Ass’y | 1 |
|  | or | Cover | (1) |
| 14 | SKMGJ500-WE | Sheet | (1) |
|  |  | Felt | (4) |
|  |  | Cushion | (1) |
|  |  | Name Plate | (1) |
|  |  | Caution Label | (1) |
| 29 | SKKGJ500-K | Battery Lid Ass’y | 1 |
|  | or | Battery Lid | (1) |
| 29 | SKKGJ500-W | Cushion | (2) |
| 31 | SJYGJ500MEX | Flywheel Ass’y | 1 |
|  |  | Flywheel | (1) |
|  |  | Flywheel Gear | (1) |

# PARTS LOCATION OF RECORD PLAYER

The parts without Ref No. are not supplied.



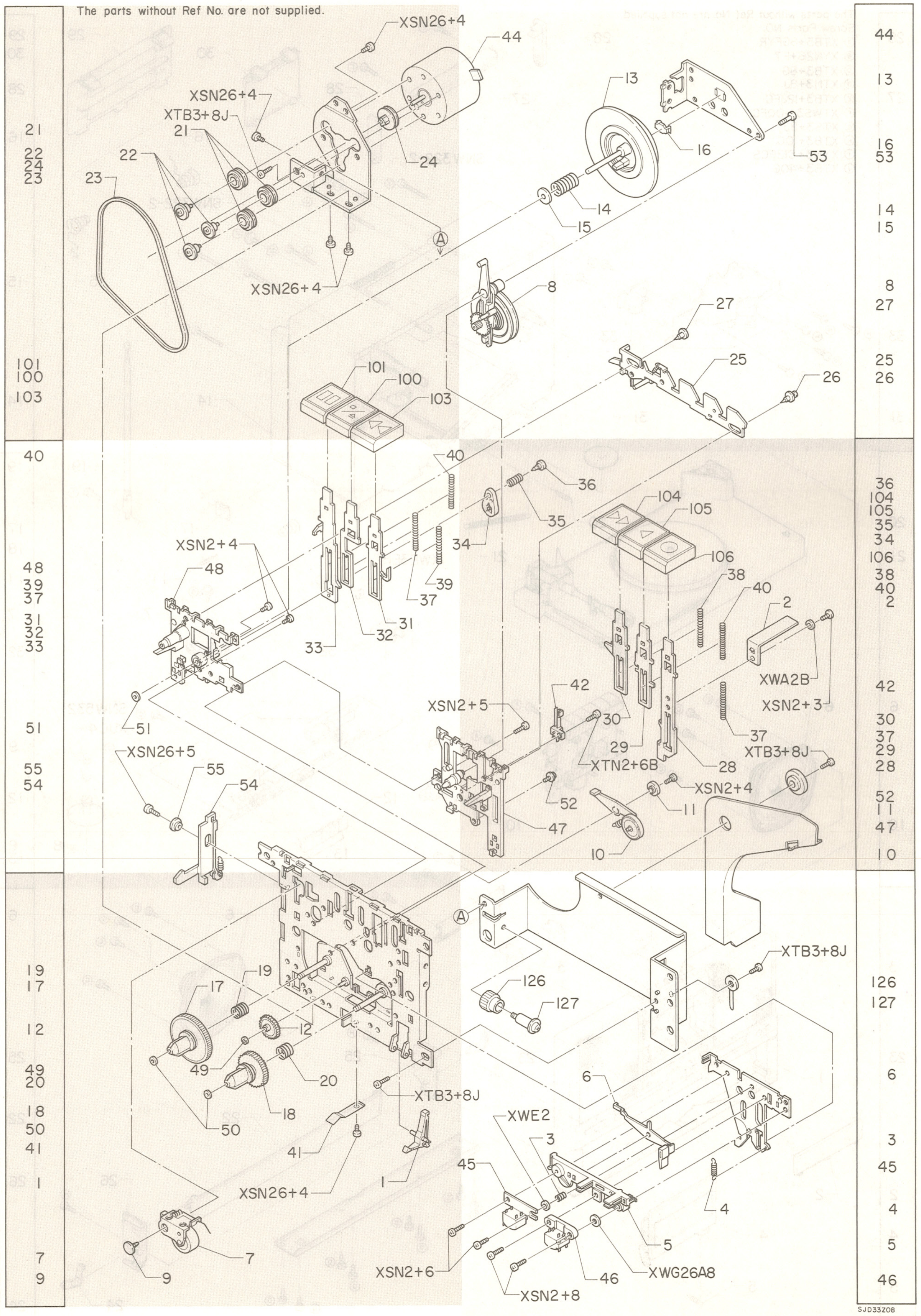
XTB3+8G
9
8
1
6-1
3
6
SNW 412-2
19
20
XTWS+10Q
4
5
2
7
XTWS3+10Q
14
15
XTB3+8G
17
16
18
XTWS3+10Q
13
12
21
10
11
XTW3+10Q
XTB3+8GFZ
SG-J500 PLAYER

# REPLACEMENT PARTS LIST OF RECORD PLAYER

| Ref. No. | Part No. | Description | Per Set |
|---|---|---|---|
| 1 | MMNGJ500 | Motor Ass'y | 1 |
| 2 | SSP74 | Micro Switch | 1 |
| 3 | EPA644STA | Tone Arm | 1 |
| 4 | EPC13STH | Cartridge | 1 |
| 5 | EPS41ST | Stylus | 1 |
| 6 | SJYGJ500K | Player Board Ass'y (Black Type) | 1 |
| 6 | SJYGJ500W | Player Board Ass'y (White Type) | 1 |
| 6-1 | SJY342 | Pick Rest Ass'y | 1 |
| 7 | SUD436 | Spacer | 1 |
| 8 | SHG9260 | Motor Rubber | 2 |
| 9 | SJY90422 | Plate, Motor | 2 |
| 10 | SHG9238 | Insulator | 4 |
| 11 | SJY90418 | Ball | 1 |
| 12 | SJYGJ500 | Turntable Ass'y | 1 |
| 13 | SJY90080 | Turntable Belt | 1 |
| 14 | SBN1132 | Slide Knob (Black Type) | 1 |
| 14 | SBN1132-1 | Slide Knob (White Type) | 1 |
| 15 | SUV288 | P.W.B. Cover | 1 |
| 16 | SJY5216 | Button (Black Type) | 1 |
| 16 | SJY5216-1 | Button (White Type) | 1 |
| 17 | SUS470 | Button Spring | 1 |
| 18 | SJY4072 | Turntable Mat | 1 |
| 19 | SJY90444 | Tone Arm Shaft Bracket | 1 |
| 20 | SJY90446 | Shaft Bracket Rubber | 1 |
| 21 | SJY90440 | Pulley Gear | 1 |

# PARTS LOCATION OF CASSETTE TAPE DECK

The parts without Ref No. are not supplied.



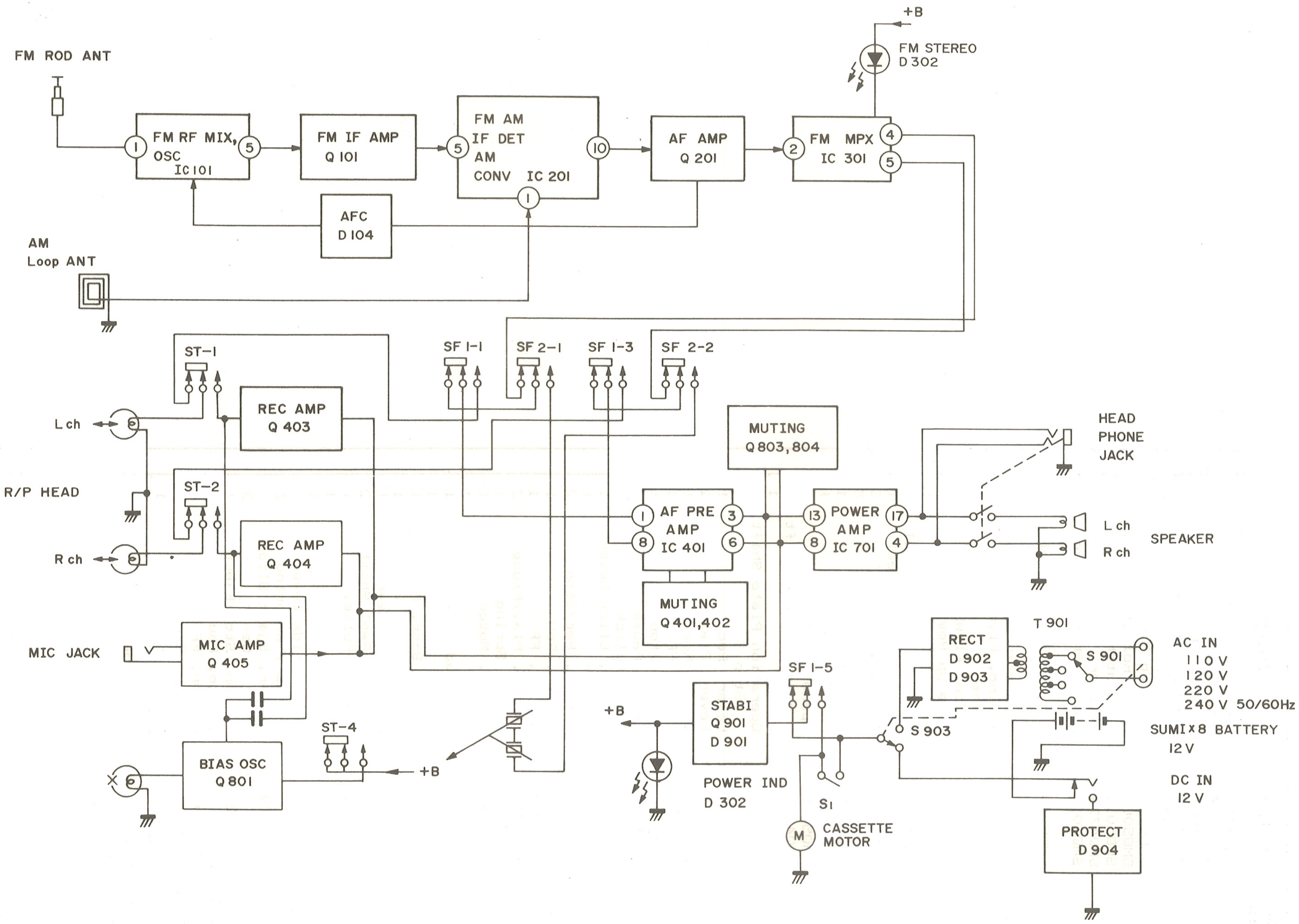
XSN26+4
44
13
XSN26+4
XTB3+8J
21
22
23
24
16
53
14
15
A
XSN26+4
8
27
25
26
101
100
103
40
36
35
104
105
34
106
38
39
37
2
XSN2+4
48
33
32
31
42
XWA2B
XSN2+3
XSN2+5
30
29
XTN2+6B
28
XTB3+8J
51
XSN26+5
55
54
52
XSN2+4
11
47
10
XTB3+8J
19
17
12
126
127
49
20
18
50
41
6
XWE2
3
45
4
5
XSN26+4
1
7
9
XSN2+6
46
XWG26A8
XSN2+8
SJD33Z08

# REPLACEMENT PARTS LIST OF CASSETTE TAPE DECK

| Ref. No. | Part No. | Description | Per Set |
|---|---|---|---|
| 1 | SMQ4778 | Rec Safety Lever | 1 |
| 2 | SMQ4284 | Rec Plate Spring | 1 |
| 3 | SMQ4596 | Spring, Head | 1 |
| 4 | SMQ5436 | Spring, Head Panel | 1 |
| 5 | SMQ5004 | Head Base | 1 |
| 6 | SMQ5006 | Sensing Piece | 1 |
| 7 | SMQ5008 | Pinch Roller Ass'y | 1 |
| 8 | SMQ5010 | RF Clutch Ass'y | 1 |
| 9 | SMQ4774 | Stopper | 1 |
| 10 | SMQ5012 | Roller Shaft Bracket Ass'y w/Spring | 1 |
| 11 | SMQ5014 | Collar, Take up Roller | 1 |
| 12 | SMQ4810 | Gear, FF | 1 |
| 13 | SMQ5016 | Flywheel Ass'y | 1 |
| 14 | SMQ5018 | Spring, Flywheel | 1 |
| 15 | SMQ5020 | Washer | 1 |
| 16 | SMQ2538 | Plate, Flywheel | 1 |
| 17 | SMQ5022 | Take up Reel Ass'y | 1 |
| 18 | SMQ5024 | Reel Ass'y, Supply | 1 |
| 19 | SMQ5026 | Spring, Take up Reel | 1 |
| 20 | SMQ5028 | Spring, Supply Reel | 1 |
| 21 | SMQ1834 | Cushion, Motor | 3 |
| 22 | SMQ1908 | Screw | 3 |
| 23 | SMQ5438 | Belt, Main | 1 |
| 24 | SMQ4726 | Pulley, Motor | 1 |
| 25 | SMQ5440 | Operation Plate | 1 |
| 26 | SMQ4276 | Operation Plate Shaft, Rec | 1 |
| 27 | SMQ5034 | Operation Plate Shaft, Stop | 1 |
| 28 | SMQ5036 | Lever, Rec | 1 |
| 29 | SMQ5038 | Lever, Play | 1 |
| 30 | SMQ5040 | Lever, Rew | 1 |
| 31 | SMQ5042 | Lever, FF | 1 |
| 32 | SMQ5044 | Lever, Stop | 1 |
| 33 | SMQ5046 | Lever, Pause | 1 |
| 34 | SMQ2444 | Lever, Click | 1 |
| 35 | SMQ5048 | Spring, Click Lever | 1 |
| 36 | SMQ4862 | Stopper | 1 |
| 37 | SMQ5050 | Spring, Rec/Stop | 2 |
| 38 | SMQ5052 | Spring, Rew | 1 |
| 39 | SMQ5054 | Spring, FF | 1 |
| 40 | SMQ5056 | Spring, Play/Pause | 2 |
| 41 | SMQ4278 | Plate, Spring | 1 |
| 42 | SMQ5460 | Switch, Motor | 1 |
| 44 | MMI5A2L | Motor | 1 |
| 45 | SJH92 | R/P Head | 1 |
| 46 | SJH94 | E Head | 1 |
| 47 | SMQ5064 | Button Base, R | 1 |
| 48 | SMQ5434 | Button Base, L | 1 |
| 49 | SMQ4930 | Washer, FF Gear | 1 |
| 50 | SMQ4928 | Washer, Reel Shaft | 2 |
| 51 | SMQ1402 | Washer, Pulley | 1 |
| 52 | SMQ5068 | Screw | 1 |
| 53 | SMQ5070 | Screw | 1 |
| 54 | SMQ5462 | Eject Slide Lever Ass'y w/Spring | 1 |
| 55 | SMQ5170 | Collar, Eject Slide Lever | 2 |
| 100 | SBC592 | Button, Stop/Eject | 1 |
| 101 | SBC594 | Button, Pause | 1 |
| 103 | SBC590 | Button, FF | 1 |
| 104 | SBC588 | Button, Rew | 1 |
| 105 | SBC586 | Button, Play | 1 |
| 106 | SBC584 | Button, Rec | 1 |
| 126 | SMQ4096 | Holder Gear | 1 |
| 127 | SNE270 | Screw | 1 |

| Ref. No. | Part No. | Description | Per Set |
|---|---|---|---|

# BLOCK DIAGRAM


+B
FM ROD ANT
FM STEREO
D 302
FM RF MIX, OSC
IC 101
FM IF AMP
Q 101
FM AM IF DET AM CONV
IC 201
AF AMP
Q 201
FM MPX
IC 301
AFC
D 104
AM
Loop ANT
ST-1
SF 1-1
SF 2-1
SF 1-3
SF 2-2
REC AMP
Q 403
L ch
MUTING
Q 803, 804
HEAD PHONE JACK
R/P HEAD
ST-2
AF PRE AMP
IC 401
POWER AMP
IC 701
L ch
R ch
SPEAKER
R ch
REC AMP
Q 404
MUTING
Q 401, 402
RECT
D 902
D 903
T 901
S 901
AC IN
110 V
120 V
220 V
240 V 50/60Hz
MIC JACK
MIC AMP
Q 405
SF 1-5
S 903
SUMI×8 BATTERY
12 V
+B
STABI
Q 901
D 901
ST-4
BIAS OSC
Q 801
+B
POWER IND
D 302
S1
DC IN
12 V
CASSETTE MOTOR
M
PROTECT
D 904

SG-J500 BLOCK DIAGRAM

Printed in Japan
83072300G